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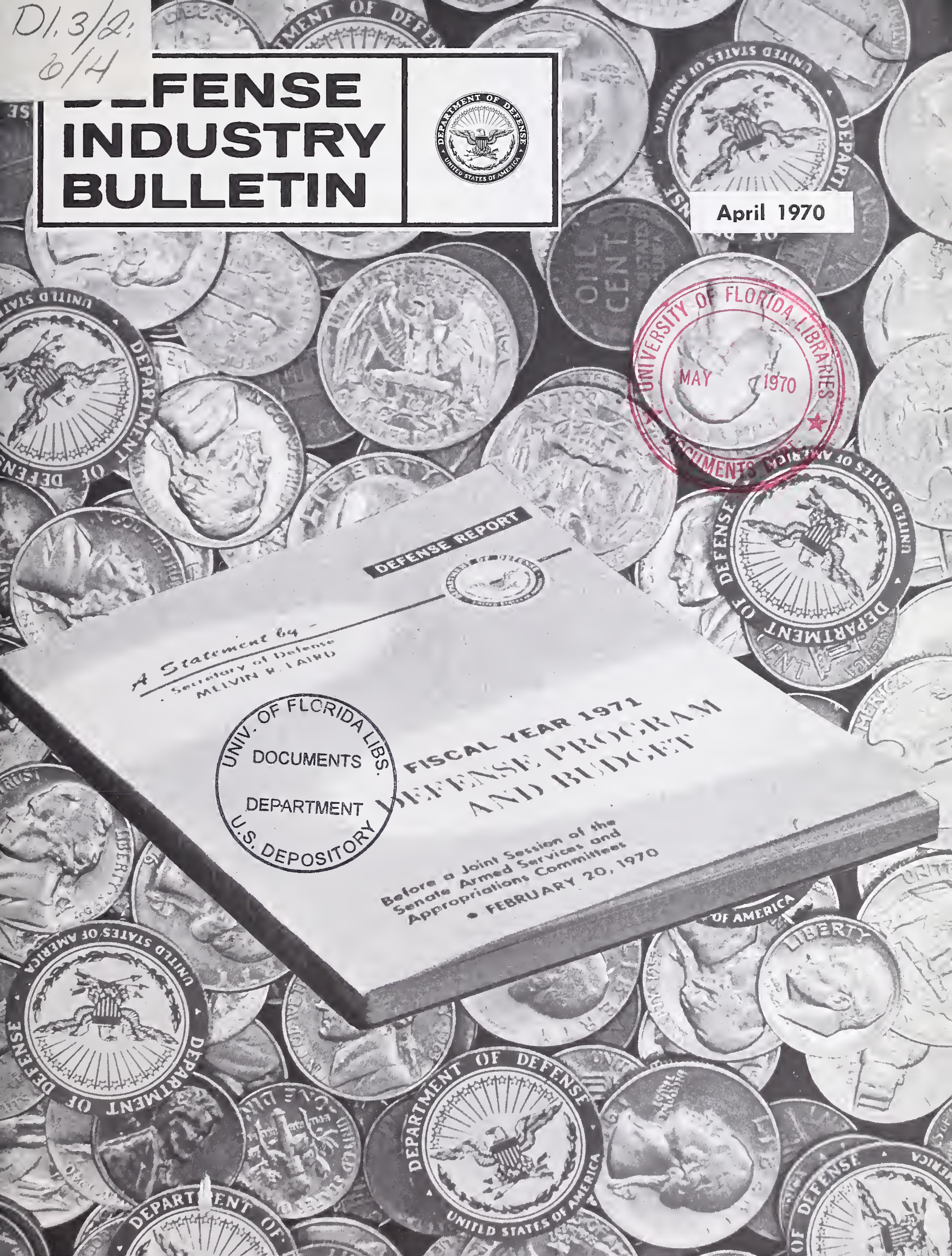
EFENSE INDUSTRY BULLETIN

April 1970



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DEFENSE INDUSTRY BULLETIN

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HON. MELVIN R. LAIRD
SECRETARY OF DEFENSE

LT. GEN. EARL C. HEDLUND
DIRECTOR, DEFENSE SUPPLY AGENCY

EUGENE F. HART
SPECIAL ASSISTANT, PUBLIC AFFAIRS

ACTING EDITOR
CAPT. FRANK W. KAFER, USAF

EXECUTIVE EDITOR
MRS. CECILIA POLLOK McCORMICK

ART DIRECTOR
R. FRED WIGHTMAN

EDITORIAL, CIRCULATION ASSISTANT
JO2 CHARLES D. WITTMAN, USN

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Suggestions from industry representatives concerning possible topics for future issues are welcome and should be forwarded to the Editor at the address shown below.

The *Bulletin* is distributed free of charge to qualified representatives of industry and of the Departments of Defense, Army, Navy, and Air Force. Subscription requests should be submitted on company letterhead, must indicate the title of the requester, and be addressed to: Editor, Defense Industry Bulletin, Hq., Defense Supply Agency (DSAH-B), Alexandria, Va. 22314.

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Defense Budget Highlights

[Editor's Note: This issue of the *Defense Industry Bulletin* is devoted almost entirely to a condensation of the statement by Secretary of Defense Melvin R. Laird on the FY 1971 Defense Program and Budget, delivered on Feb. 20, 1970, to a joint session of the Senate Armed Services Committee and the Senate Subcommittee on Department of Defense Appropriations.

An attempt has been made to include those portions of the statement that are of special interest to defense industry. In its original format, the statement contained five appendices. As presented in the *Bulletin*, these appendices have been rearranged to immediately follow the subject areas to which they pertain.

The complete text of this statement is available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for $1.50.]

The Secretary's Summary

When we assumed office, I expressed the hope that my success or failure as Secretary of Defense would be judged on whether or not we in the Nixon Administration restored peace and were able to maintain it.

As we reduce our defense spending and move further into negotiations, we should have no illusions about the current state of world affairs. I am obliged to report to you, for example, that the Soviet Union is not making similar reductions in its defense budget. In fact, the Soviet Union is pulling abreast of us in many major areas of military strength and ahead of us in others. The Soviets are continuing the rapid deployment of major strategic offensive weapon systems at a rate that could, by the mid-1970s, place us in a second-rate strategic position with regard to the future security of the Free World.

Following the exploratory arms limitation talks in Helsinki, the Soviet Union has agreed to discuss the limitation of strategic weapon systems with us in Vienna beginning in April. Hopefully, success in the Strategic Arms Limitation Talks (SALT) will move both our nations well along the road toward the era of uninterrupted peace we all seek. The dividends for our domestic programs could thereby be increased still further.

However, as Secretary of Defense, I must consider actions as well as words. If the current Soviet buildup continues, we will need additional costly steps to preserve an effective deterrent. Pending the outcome of SALT, we must continue those steps which are necessary to preserve our current strategic position. Within that context, this austere FY 1971 budget is designed to preserve the range of options we may need for possible outcomes of the talks, including those we may need if no agreement is reached and Soviet strategic deployments continue at or above the present levels.

The rate of buildup of the Soviet threat and the long lead time needed to develop and deploy operational systems make it essential that we continue progress on the Safeguard antiballistic missile defense system and initiate a further increment of that system in FY 1971. Without the Safeguard increment provided by this budget, we would have to face hard decisions about adding to our offensive systems in this transition year, rather than being able to await hoped-for progress in SALT and the development of a new five-year program which will be presented next year.

In my view, the President's decision to go forward with a modified phase II of the defensive Safeguard program will, in the long run, enhance the prospects for the success of SALT because, in the short run, it allows us to exercise greater restraint in matching a continued Soviet buildup of offensive systems with actions involving our own offensive systems. Safeguard has the added advantage of doing this with minimal spending in FY 1971.

The President's decision on Safeguard is also essential to preserve our capability to deter Chinese nuclear aggression against our Asian allies without jeopardizing the U.S. civilian population.

In this, my first comprehensive report to the Congress since Deputy Secretary David Packard and I took office in January 1969, I intend to set forth the Defense Department program and budget for FY 1971, and the reasons that compel us to follow a transitional course in this first year of a decade which historians will probably view as one of world transition.

* * * * *

Approach to FY 1971 Defense Program and Budget

The programs we are proposing for FY 1971 are essentially designed to preserve our own military capabilities and flexibility during the transition period financed by the FY 1971 defense budget. We have made no irrevocable decisions on the future composition of our strategic, general purpose, or mobility forces. We know that under any kind of sensible national security program, we will need major portions of the forces that are already in existence. The precise mix of those forces depends on many uncertain factors; some of them are subject to our control, others are outside our influence. SALT and the Paris Peace Talks are the most obvious factors that contribute to this uncertainty. Other factors include:

- Progress of our Vietnamization policy.
- Need for detailed consultations with our allies.
- Need to conclude additional wide-ranging studies on such matters as the balance of forces between NATO and the Warsaw Pact.

During the coming year, we will continue to review what adjustments in military strength will be required for ourselves and our allies to make our new strategy effective. Many of these adjustments will be reflected in our five-year defense program next year.

. . . a number of significant changes are being made in our Planning-Programming-Budgeting System (PPBS) procedures and, although we have not found it feasible in this Defense Report to project our proposed forces and programs beyond FY 1971, we have already started the FY 1972–76 PPBS cycle. We confidently expect to be in a position next year to present to the Congress our proposed five-year defense program.

An important change under the new PPBS concerns the role of the Joint Chiefs of Staff (JCS) and the Services. In contrast to the practice of the preceding Administration, we are now providing the JCS and the Services explicit strategy and fiscal guidance, prior to the submission of their final force recommendations for the forthcoming five-year program and annual budget. In the past, they were placed in a position where they had to submit their force recommendations without reference to any explicit fiscal guidance. This, in large part, explains why, in the past, the JCS proposals always cost $20 to $30 billion more than the annual defense budgets recommended by the Secretary of Defense and approved by the President.

Pending the full implementation of the new PPB System, which will be completed this year, we have had to adopt some interim arrangements for the development of the FY 1971 defense program and budget. It became evident by the late summer of last year that major reductions would have to be made in the FY 1970 budget, and that the conditions which made these reductions necessary would also affect the FY 1971 budget. Those conditions included:

- Determination of President Nixon to reorder our allocation of Federal resources to bring them in line with changing national priorities.
- Crucial need to bring inflation under control and the President's dedication to this objective.
- Clear intent of Congress to make major reductions in defense spending.

Therefore, we modified the FY 1971 segment of the previously approved five-year defense program to reflect all adjustments the Department and Congress were expected to make in the FY 1970 budget. We then estimated the cost of the modified FY 1971 program. . . .

[The Services'] budget estimates were reviewed jointly by my staff and the Bureau of the Budget staff, as has been the practice for many years. The force changes were reviewed by the Joint Chiefs of Staff and by elements of my own staff. [Deputy Secretary] Packard and I, in full consultation with all of our principal military and civilian advisors, then reviewed the outstanding issues and made final decisions on our FY 1971 program and budget recommendations.

These recommendations, plus those of the Defense Program Review Committee on major issues involved in the FY 1971 defense program and budget, were submitted directly to the President. The President, of course, made the final decisions.

The FY 1971 defense budget transmitted to the Congress by the President totals $71.3 billion in new obligational authority (NOA) and $71.8 billion in outlays, excluding any pay increases that may be enacted by the present session of the Congress. . . .

* * * * *

Given a sufficiently tranquil world, the Defense Department's objective in the 1970s concerning fiscal matters will be to keep defense spending at such a level that:

- Additional resources will become available for domestic programs.
- We will do our share in turning the tide against inflation.

In doing this, we must and we will maintain sufficient strength to ensure our ability to deter aggression and meet our defense needs.

* * * * *

We have made a determined effort in planning the FY 1971 defense budget to be fiscally responsible, to maintain our current basic capability with modernization as appropriate, and to provide the foundation for our work ahead—that of reshaping our military establishment to support our new strategy and our revised national priorities.

Finally, I must state that this is a rock-bottom budget. I believe that the national security would be jeopardized by any further reductions in our FY 1971 defense budget request. In our testimony throughout the authorization and appropriations processes in the House and Senate, I hope we can convince the Congress that the program presented to you is the right program for the first year of this new decade.

Priorities and Resource Allocation

The Nixon Administration attaches paramount importance to the problem of devising more rational ways for the Federal Government to allocate the resources at its disposal among the many worthy but highly competitive claims. I want to devote this section of my Defense Report to a discussion of what we have done and what we intend to do in support of this task.

Determining the best use of our limited resources is the essence of good planning. During the past year, at the direction of the President, we have mounted a vigorous and determined effort to reduce defense expenditures. We have done so to help combat inflation and to free resources for other pressing needs. The FY 1971 defense budget reflects this continuing effort.

Progress Achieved

The Johnson defense budget for FY 1970 proposed just a year ago was the highest in the last two decades in both requested obligating authority and estimated outlays. In January 1969, defense military and civilian manpower stood at 4,646,082, the highest level since Korea.

Against the perspective of the situation a year ago, two conclusions are obvious as we look at the FY 1971 defense budget and the Federal budget in general.

First, there has been a sharp cutback in the defense budget—a record-setting cut, whose size and impact are not yet fully revealed or comprehended. In mid-March, we plan to announce base closures and related economies required by the reduced budget.

Second, there has been a major realignment of priorities within the Federal budget. Defense reductions have been more than matched by increases in other Federal programs.

Figure 1 highlights some of these changes—starting with the situation a year ago and running through the FY 1971 budget. . . .

Figure 2 [on page 4] shows budget trends over a somewhat longer time span. Let me emphasize a few of the points shown in this table:

- Defense spending in FY 1971

Economic Impact of Defense Programs

	One Year Ago	Today	FY 1971
Total obligating authority	FY 1970 Johnson budget—$85.6 billion	FY 1970 revised—$77 billion	$72.9 billion
Outlays (spending)	FY 1970 Johnson budget—$81.6 billion	FY 1970 revised—$77 billion	$71.8 billion
Defense as a percent of GNP	9.5% FY 1968	8.7% FY 1969	7%
Defense as a percent of Federal budget	40.6% FY 1970 Johnson budget	37.7%, FY 1970 revised	34.6%
Defense manpower military and civilian	4,735,000 June 1970, in Johnson budget	4,364,000 June 1970, in revised budget	4,053,000 June 1971
Personnel entering military service	1,054,000 FY 1970 in Johnson budget	836,000 FY 1970 revised	753,000
Unfilled defense orders in industry	$33.1 billion	$30 billion	
Industry pipeline (unfilled orders related to shipments)	8.6 months	6.8 months	

Defense Outlays in Constant Dollars

($ billions)

	FY 1964	FY 1969	FY 1970	FY 1971
In FY 1964 dollars	$50.8	$65.6	$60.0	$54.6
In FY 1969 dollars	61.3	78.7	72.3	65.9

Figure 1.

will constitute the lowest percentage of total spending by the Federal Government, or of gross national product (GNP), in 20 years.

- From FY 1969 to FY 1971, defense spending has *fallen* by $6.9 billion, while non-defense Federal spending has *risen* by $24.6 billion. This divergence indicates the extent to which defense reductions are now being applied to other national needs.
- From pre-war FY 1964 to FY 1971, defense expenditures show an increase of $21 billion; other Federal expenditures increased by $64.9 billion.
- If the FY 1970 Johnson budget is used as a benchmark, defense spending is *down* $9.8 billion in FY 1971 while other Federal programs are *up* $16.2 billion—a significant shift of priorities in a single year's time.

Defense Budget, Federal Budget, and GNP Selected Years

(Billions of Dollars)

Fiscal Years		GNP	Federal budget outlays				DOD outlays as percent of:	
			Net total	Dept. of Defense	Other	Offsets [b]	GNP	Federal budget
1950	Lowest year since World War II [a]	$263.3	$43.1	$11.9	$31.2	NA	4.5	27.7
1953	Korea peak [a]	358.9	76.8	47.7	29.1	NA	13.3	62.1
1961	Ten years ago	506.5	97.8	44.6	55.7	−2.5	8.8	44.5
1964	Last prewar year	612.2	118.6	50.8	70.7	−2.9	8.3	41.8
1968	SEA peak [a]	822.6	178.9	78.0	105.5	−4.6	9.5	42.5
1969	Last actual year	900.6	184.6	78.7	111.0	−5.1	8.7	41.5
1970	Johnson budget	960.0	195.3	81.6 [c]	119.4	−5.7	8.5	40.6
1970	Current estimate	960.0	197.9	77.0	127.0	−6.1	8.0	37.7
1971 [e]	Budget estimate	1,020.0	200.8	71.8	135.6	−6.6	7.0	34.6
1971	In 1964 dollars	—	—	54.6	—	—	—	—
Changes:								
	1964 to 1971	+407.8	+82.2	+21.0 [d]	+64.9	−3.7	—	—
	1969 to 1971	+119.4	+16.2	−6.9	+24.6	−1.5	—	—

[a] Measured in terms of defense outlays as a percentage of GNP and Federal budget.

[b] These amounts are undistributed intragrovernmental transactions deducted from Government-wide totals. These include Government contribution for employee retirement and interest received by trust funds.

[c] Includes the $2.6 billion cost of the July 1, 1969, pay raise. The pay-raise costs were not shown in the agency totals, but were included in a Government-wide contingency estimate in the FY 1970 Johnson budget.

[d] 5.2% of the GNP growth during this period, and 24.4% of the increase in the Federal budget.

[e] Lowest percent of GNP since 1951; lowest percent of Federal budget since 1950.

Figure 2.

Looking to the Future

How, then, do we intend to carry forward into FY 1971 and beyond the search for even better and more rational allocation of resources? We must be cautious, for a great deal will depend on events beyond our control. But the general thrust of our program is clear in this transitional budget.

The general context of national concern will be broader than in the past. Our national security will be more carefully related to the strength of our economy and the need for improving the quality of life in America. Because more of our resources will be channeled away from defense, at least on a relative basis, those resources which will be available to support our defense forces will become somewhat scarce, even though we are and will remain the richest nation in the world.

I want to assure this Committee, however, that we shall not be obliged to sacrifice our people's safety. Nothing can have a higher priority than our nation's safety and security. We shall not allow them to be endangered so long as we have the support of Congress and the nation for the continuing essentials of national security. As the President noted in his Foreign Policy Report:

> **Defense spending is of course in a special category. It must never fall short of the minimum needed for security. If it does, the problem of domestic programs may become moot. But neither must we let defense spending grow beyond that justified by the defense of our vital interests while domestic needs go unmet.**

Additional reductions in future years are possible, for one reason because dividends await us from organizational and management improvements. We have not been organized properly in the past. We have not made the most rational and efficient use of those strengths and capabilities that the defense community has had at its disposal. To rectify this serious shortcoming, the Nixon Administration has put into effect far-reaching organizational improvements and we have instituted some important changes in Defense Department management. Before describing those improvements, let me mention some problems of the governmental environment.

Automatic Regulator

In Government we lack the allocative mechanism provided to business by the marketplace. There are no automatic indicators to tell us how much education to provide, how much welfare, how much defense. In fact, in the American system, we assign to the Government precisely those activities that are not market-oriented. If any activity can be handled on a buyer-seller basis, we generally leave it in the private sector. The public sector normally gets involved only when costs and/or benefits are widely diffused and difficult to measure.

Structural Flaws

In addition to this lack of impersonal benchmarks to guide the allocation of scarce resources, we face structural and institutional difficulties.

The Federal Government has not, in the past, been very well organized across the board to analyze basic problems of resource allocation. We have not had an appropriate mechanism for weighing one Federal program against others within the context of the budget as a whole or in an appropriate time frame.

Let me discuss this complex challenge with the help of the simplified chart shown in Figure 3, which uses defense as an example to illustrate the chain of allocative decisions that must be made.

Of course, the problem is not as simple as this chart suggests, since account must be taken of the feedback that occurs throughout the allocation process. For example, after an overall Federal allocation is established, it may later develop that this allocation is far from optimum, when viewed in the light of actual appropriations enacted, a changed economic environment, or a changed world situation. I think the past experience with Vietnam budgets is a good example. Expenditures were adjusted at all levels, particularly at point 4 within defense, as more resources were devoted to General Purpose Forces. The combination of increases in the Federal budget brought about a major change at point 1—the surtax.

As to the first item on the chart, it is clear we must look at revenues and expenditures together. For example, when we grant exemptions in our tax laws, we are, in effect, spending. In fact, "tax spending" is the current term used to describe this procedure, and it is a huge amount. Would we appropriate these same amounts directly? Clearly, tax spending should meet the same criteria for resource allocation as direct spending, but we have no mechanism for considering them together.

Turning to the second item on the chart, we may note that some activities, such as defense and foreign affairs, are almost completely Federalized. For many others, however, the Federal Government plays only a part —sometimes a relatively small part— in the overall U.S. effort. These include health, education, welfare, housing, and transportation, to name a few. The Federal effort in each of these areas should make sense in terms of the totality of governmental and private activity. And, I must emphasize, all Federal dollars on both sides of the budget are in competition here. Once again, I don't think institutional arrangements are appropriate to our needs.

Moving to the third point, consider what we face in allocating resources within the Federal sector. We find that defense—roughly one-third of the budget total—is completely controlled through the annual authorization-appropriation process. The non-defense portion (two-thirds of the budget) is only about one-quarter so controlled. About 75 percent of the civilian programs are frozen in long-standing statutory formulas and other relatively fixed guidelines. If Congress or the President wants to change the allocation of resources within the Federal sector (or among the Federal and other sectors) in any reasonably short period of time, such as a year or two, the only course open is the appropriation process—but that process covers less than half of the direct-expenditure side of the budget, and none of the tax spending.

Items 4 through 7 refer in the chart, of course, to internal allocational problems of the Defense Department.

What I conclude is that the annual authorization-appropriation process as

Resource Allocation

General to Specific

Sector and Decision Level	Allocative Problem
1. Overall U.S. Economy	Private vs. Public (Government)
2. Government	Federal vs. State vs. Local
3. Federal Government	Defense vs. HEW vs. OEO vs. Transportation, etc.
4. Defense	Strategic vs. Gen. Purpose vs. R&D vs. MAP, etc.
5. Defense Program	ICBMs vs. SLBMs vs. Bombers
6. Defense System	Minuteman vs. Titan vs. Other
7. Defense Weapon	Warhead vs. Guidance vs. Penetration Aids, etc.

Figure 3.

it exists today is not a sufficiently effective means for the timely allocation of resources. It is too limited in scope and in time.

* * * * *

Needed Improvements

I believe it is clear two things are needed. First, we must get our house in order within the Executive Branch. Then we must approach the Congress with some specific proposals that will facilitate our resource-allocation process.

I want to turn now to the steps we have already initiated in the Executive Branch.

Let me begin by mentioning, briefly, the function of systems analysis, or program review. This is a very important tool within the Defense Department for helping [Deputy Secretary] David Packard and me to make hard choices in acquiring weapons and establishing force goals.

There has been criticism of this function, or of its misuse in the past. Some of this criticism has been justified. In my view, however, systems analysis, when properly used, is an essential management tool.

There are no absolute answers to the kinds of questions we face in Defense Department decision making. Systems analysis, properly used, elevates the level of judgment and helps decision makers to sort out fact and opinion.

Federal Objectives, Resource Allocation

While systematic and rational allocation of resources within and among defense programs makes sense and contributes to efficiency, it will contribute even more if a similar approach were taken at higher levels of decision making. Rational allocation of resources at the topmost levels requires that we define our national objectives. To this end the President has established a National Goals Research Staff in the White House.

National security studies and analyses, conducted under the aegis of the National Security Council or unilaterally by the Defense Department, can provide a good deal of information about our world-wide commitments and basic security needs. But in the past, when such analyses were made, they almost never addressed the other parts of the equation, *i.e.*, our non-defense objectives and the resources available to attain them.

Since studies within the National Security Council and the Defense Department focus on requirements, there is a built-in tendency to request more resources than are available. Although our predecessors took steps to mitigate this tendency through the Planning - Programming - Budgeting System within DOD, we cannot and should not expect the Defense Department or the National Security Council to decide on the final allocation of resources between defense and non-defense activities. The President and ultimately the Congress must make these decisions.

Defense Program Review Committee

During this past year, it became increasingly evident that we needed a better way to come to grips with allocation of overall Federal resources to the various Departments—and we needed it quickly. . . .

We have not fully solved the problem of rational resource allocation at the highest levels of Government, but this Administration has taken what I believe to be a pioneering step in integrating national security programs into the overall picture of Federal priorities. Last October, the President established the Defense Program Review Committee (DPRC) to assist him in carrying our his responsibilities for the conduct of national security affairs, particularly in reviewing major defense issues involving military, political, and economic considerations of the highest order. The President discussed the role of this committee in his Foreign Policy Peport.

The DPRC is not just another level of review in the Executive Branch that adds to the burden of our already unwieldy machinery, or that oversees the detailed operation of the Defense Department. This committee is not intended to monitor on-going internal operations, programs, or budget processes of the Defense Department. Nor will it intrude into the process of formulating proposals for defense programs. These functions continue to be the responsibilities of the Secretary of Defense, as heretofore. The Defense Program Review Committee can and does, however, serve a very useful purpose in achieving a proper balance in the resolution of the basic allocative problems in the Federal Government. This committee can and hopefully will:

- Assist the President in determining that our national security commitments and requirements are properly evaluated and costed.
- Review the overall inventory of national resources to provide better insight into balancing the distribution of total Federal resources.
- Help to array for the President the various benefits and costs of higher, and lower, national security budgets. The committee can be particularly useful in explaining, where national security needs seem especially high, the impact of added expenditures on other national goals and the means by which such impact can be ameliorated.

If this group functions effectively in this way, it will further improve our national security decision-making process.

* * * * *

Strategic Forces

Our strategic forces—both offensive and defensive—account for about 12 percent of the total FY 1971 defense budget, but their vital importance to our security and, indeed, the security of the entire Free World, far transcends their relative cost. These forces unquestionably provide the basic foundation of our deterrent.

Strategic Situation

The President has just reported to Congress and the American people on U.S. foreign policy. Incorporated in his report was a discussion on U.S. strategic policy and the strategic environment. Therefore, in this report, I would like to cover only those factors of specific concern to the Defense Department—the strategic threat, U.S. strategic force planning, and those programs which we propose for FY 1971.

The difficult task before us is to derive a proper balance of forces appropriate to fulfill our objectives in the current and future strategic environment.

Threat

The situation caused by the continuing rapid expansion of Soviet strategic offensive forces is a matter of serious concern. For some time, the Soviet forces which became operational in a given year have often exceeded the previous intelligence projections for that year.

The projections for intercontinental ballistic missile (ICBM) and submarine launched ballistic missile (SLBM) strengths for mid-1970 and mid-1971 have been revised upward in each of the past five years as additional information on Soviet deployments has become available. For example, the current estimates of total operational Soviet ICBM and SLBM launchers expected by mid-1970, when compared with the projections for mid-1970 made last year, show an increase of well over 100 launchers. The same basic trend is evident in the projections for 1971.

The fact that our projections have not reflected all of the growth in Soviet offensive missile strength over the past several years is less important than the actual magnitude of this threat. During the forthcoming year, changes can be expected.

Soviet Strategic Forces

Soviet strategic offensive forces include intercontinental ballistic missiles (ICBMs), ballistic missile submarines, heavy bombers, medium range and intermediate range ballistic missiles (MR/IRBMs), and medium bombers.

Soviet defensive forces, which are the most extensive in the world include interceptor aircraft, surface-to-air missiles (SAMs), and ballistic missile defense (BMD). The interceptor aircraft and SAMs, together with the necessary air warning facilities, are considered air defense forces.

* * * * *

[A detailed discussion of the strategic threat (Appendix A of the statement to Congress) follows this summary beginning on page 12.]

Strategic Force Planning

Both the Soviet Union and the Chinese Communist strategic nuclear threats, as presently projected through the mid-1970s, have important implications for our own strategic force planning.

Even if the Soviet Union follows a low force-low technology approach during the next few years, it could still have almost 2,000 reentry vehicles in its ICBM force by the mid-1970s. This force, alone, would be more than enough to destroy all U.S. cities of any substantial size. More than half of the U.S. population lies within range of the growing Soviet SLBM force. And, of course, in defense planning, we must also take into account the Soviet bomber force, which is expected to decline only gradually in the near term.

In view of the magnitude of the current Soviet missile threat to the United States, and the prospects of future growth in quantity and quality, we have concluded that a defense of our population against that threat is not now feasible. Thus, we must continue to rely on the retaliatory power of our strategic offensive forces to deter the Soviet leaders from launching a nuclear attack on our cities.

But, if we are to rely on these forces for deterrence, we must be sure that they can at all times and under all foreseeable conditions inflict decisive damage upon the Soviet Union, or any combination of aggressors, even after our forces have been subjected to an all-out nuclear surprise attack. The frequently debated question as to whether or not the Soviets are deliberately seeking to achieve a "first-strike" capability against the United States is an important but not the crucial issue in this context. What *is* crucial is whether they could achieve such a capability in the future. In any event, in evaluating the adequacy of our strategic forces we must always provide for the possibility that the Soviet Union might launch a surprise attack against the United States—particularly if it might assure a more favorable outcome for them. Our strategic forces are primarily designed to deter such an attack. Thus, regardless of how we interpret Soviet intentions, we still must deal with Soviet capabilities in assessing the sufficiency of our strategic forces for deterrence—now and in the future.

Our forces must be adequate to ensure that all potential aggressors are convinced that acts which could lead to nuclear attack or nuclear blackmail pose unacceptable risks to them.

Our latest analyses of strategic force effectiveness indicate that the presently programmed U.S. forces should be able to provide an adequate deterrent for the near term. For the longer term, there is less certainty that our present capability will remain adequate.

Should the Soviets follow a high-force-high technology approach during the next several years, they could pose not only an overwhelming threat to our cities but also a very formidable threat to our land-based missile forces and bombers.

The rapidly growing Soviet SLBM force does not now constitute a significant threat to our land-based missiles. But, without ABM defense of our bomber bases, by 1972 it could constitute a severe threat to the prelaunch survival of our bomber forces. Under these circumstances, the warning time for our bomber bases located near the coasts could be considerably reduced. With considerably less warning, even our alert bombers could be vulnerable.

According to our best current estimates, we believe that our Polaris and Poseidon submarines at sea can be considered virtually invulnerable today. With a highly concentrated effort, the Soviet Navy today might be able to localize and destroy at sea one or two Polaris submarines. But the massive and expensive undertaking that would be required to extend such a capability using any currently known antisubmarine warfare (ASW) techniques would take time and would certainly be evident.

However, a combination of technological developments and the decisions by the Soviets to undertake a worldwide ASW effort might result in some increased degree of Polaris/Poseidon vulnerability beyond the mid-1970s. I would hope that Polaris would remain invulnerable at least through the 1970s. But, as a defense planner, I would never guarantee the invulnerability of any strategic system beyond the reasonably foreseeable future, say five to seven years.

That is one of the reasons why we are proceeding with the research and development for a new sea-based missile system, the undersea long-range missile system (ULMS). The new, longer-range missile proposed for this system would greatly increase the submarine operating area, thereby making the ASW problem much more difficult from the ocean search and logistic support standpoints. With their long-range missiles, these ships could be based in the United States, and their weapons could be maintained in an "on target" status during the entire deployment period of the submarines.

The foregoing discussion relates to what is frequently called "pre-launch survivability" of U.S. strategic forces, or the number of weapons that would survive an initial Soviet attack and be available for retaliation. We are also concerned about another aspect of survivability, that of ensuring penetration of our weapons through the defenses in the target area.

The Soviet ballistic missile defense system currently deployed around Moscow could destroy some arriving U.S. reentry vehicles. Although this system, by itself, would not significantly degrade a large U.S. retaliatory strike, it must be taken into account in our planning. Moreover, the Soviets are developing new ABM components about which we as yet know little. We will need to watch this program closely (just as we must continue to review the SA–5 SAM system) for possible impact on U.S. retaliatory penetration capabilities.

We are proceeding with a program to place MIRVs on our Minuteman and Poseidon missiles. We consider this program essential to preserve the credibility of U.S. deterrent forces when faced with the growing Soviet strategic threat. The MIRV program will provide a number of small, independently-targetable warheads on a single missile. Should part of our missile force be unexpectedly and severely degraded by Soviet preemptive actions, the increased number of warheads provided by the remaining MIRV missiles will ensure that we have enough warheads to attack the essential soft urban/industrial targets in the Soviet Union. At the same time, the MIRV program gives us increased confidence in our ability to penetrate Soviet ABM defenses, even if, as noted before, part of our missile force were destroyed.

We must consider bomber penetrability as well. Although the combined surveillance, interceptor and SAM programs of the Soviet Union account for a significant and continuing investment of resources, we believe that this network is currently susceptible to penetration by U.S. bombers using appropriate tactics and penetration aids. However, if the Soviets improve their air defenses with a "look-down, shoot-down" intercept system, including both surveillance and intercept aircraft, the penetration capability of our bomber force could be seriously eroded.

To meet the threat of a more sophisticated Soviet air defense, a number of alternatives are available. We are moving forward with the short range attack missile (SRAM) program, and we propose to continue the development of a new subsonic cruise armed decoy (SCAD) for our bomber forces in FY 1971.

The main component of our current bomber force, the B–52, represents early 1950 technology. It has been, and remains today, a useful weapon. We believe that under normal conditions of maintenance and usage, and with certain modifications now programmed, the effective life of some of our B–52s can be extended at least until the late 1970s or early 1980s.

We propose to move forward into engineering development of a new intercontinental jet bomber, the B–1. This aircraft, in comparison with the B–52, is designed to have greatly improved basing survivability, a smaller radar cross section, reduced infrared signature, lower penetration altitudes, higher penetration speed and a greater payload. . . .

* * * * *

Given our interests and obligations in Asia and the Western Pacific, we have two basic alternatives available to us:

- We can rely on our strategic offensive forces for deterrence of Chinese nuclear attack on the United States or its allies. If, nonetheless, we are presented with a Chinese ultimatum to let them have their way in Asia or risk a first-strike nuclear attack on a U.S. city, the President would be confronted with the terrible choice of backing down in Asia, risking the destruction of U.S. cities and loss of American lives, or initiating a strike against Chinese ICBMs before they are launched.

- We can supplement and sustain the deterrent value of our offensive forces by deployment of a ballistic missile defense system to protect our cities and population against the Chinese Communist ICBM threat.

President Nixon has assured our Asian allies that our nuclear shield extends to them. The credibility of that shield would be greatly enhanced if our Asian allies knew that because of a Safeguard defense the Chinese Communists had virtually no prospect of blackmailing the United States by threatening American cities.

Furthermore, there are several fundamental differences in the problem of deterring Communist China with our strategic offensive forces as compared with the Soviet Union.

While it is true that a large part of their industrial capacity is also concentrated in a relatively few cities, Communist China, in contrast to the Soviet Union, and for that matter the United States, is predominantly a rural society and only a relatively small proportion of the population is urban. This major demographic difference between the United States and the Soviet Union on the one hand, and Communist China on the other, is highlighted in Figure 4.

Some have contended that a relatively small number of warheads detonated over China's 50 largest cities could destroy half of their urban population and more than half of their industry, as well as most of their key government officials and a large majority of their scientific, technical and skilled workers. This amount of destruction, they maintain, should be a sufficient deterrent to an attack by Communist China on the United States.

However, there are other ways the Chinese Communists might use their nuclear capability—as a threat to the United States or our friends in Asia—and while the fact that we can destroy a sizeable proportion of Chinese urban population and industrial capacity is important, it may not necessarily be decisive in this latter case.

China is predominantly a rural society where the great majority of the people live off the land and are dependent only to a limited extent on urban industry for their survival. The key government officials and even the skilled workers can be evacuated from the cities in time of crisis. The Chinese are taking steps to decentralize their industry.

In contrast to China, our population is heavily concentrated in a relatively few large cities—25 percent in the 10 largest U.S. cities compared with 11 percent in the 1,000 largest Chinese cities. Consequently, they could inflict on us a proportionately greater number of fatalities in a small attack than we could inflict on them in a very large attack. Finally, in any nuclear confrontation with Communist China, we would still have to maintain a sufficient deterrent against the Soviet Union. These are problems that we have under review at the present time.

We recognize apparent Chinese ambitions for political hegemony in Asia, and their indicated hostility toward the United States. However, we do not expect them to resort to overt aggression to achieve their political purpose in Asia. Nevertheless, in view of the nature of the developing Chinese nuclear threat, it would seem foolhardy on our part to rely on our deterrent forces only—if a better alternative is available.

A flexible Safeguard defense would serve a future President far better than a rigid offensive capability. As President Nixon said: "No President with the responsibility for the lives and security of the American people could fail to provide this protection." It is crucial that we provide a more complete counter to this potential Chinese threat and, with Safeguard, we have the option to do so.

Safeguard

The evident and continuing threats from the Soviet Union and Communist China force upon us the necessity of continuing progress on the Safeguard anti-ballistic missile defense system in FY 1971. We hope Strategic Arms Limitation Talks (SALT) will lead to a reduced Soviet threat but, meanwhile, it is essential to preserve, as far as possible, all available strategic force options in this transitional budget year. As I indicated earlier, without the Safeguard increment provided by this budget, we would be faced now with the hard decisions about adding immediately to our offensive systems rather than being able to await hoped-for progress in SALT. . . .

The decision of the Administration to request continuation of an orderly, phased Safeguard program for ballistic missile defense—going beyond the Congressionally approved phase I—

Population and Industrial Capacity in 1970
Cumulative Percentage Distribution

(Number of Cities in Order of Population Rank)

	United States		Soviet Union		Communist China	
No. of Cities	Pop.	Ind. Cap.	Pop.	Ind. Cap.	Pop.	Ind. Cap.
10	25.1	33.1	8.3	25.0	3.7	30–35
50	42.0	55.0	20.0	40.0	6.8	50–60
100	48.0	65.0	25.0	50.0	8.6	65–75
200	55.0	75.0	34.0	62.0	9.0	80–90
400	60.0	82.0	40.0	72.0	10.0	85–90
1000	63.0	86.0	47.0	82.0	11.0	

Figure 4.

was based on:

- Careful consideration of the original objectives of Safeguard defense, and of the need to maintain the President's flexibility on future options to either curtail or expand the system.
- The continued Chinese progress in nuclear weapons.
- The evolving and increasing Soviet offensive weapon threat.
- Our determination to strengthen possibilities for a successful Strategic Arms Limitation agreement.
- The options currently available, considering technical progress and budgetary factors.
- The current international situation.
- Our desire to continue emphasis on strategic *defensive* systems rather than being forced to deploy additional *offensive* weapons or to be forced to move forward now, with making a portion of our Minuteman force mobile.

Objectives and the Decision

President Nixon, on March 14, 1969, announced the following defense objectives for Safeguard:

> **Protection of our land-based retaliatory forces against a direct attack by the Soviet Union.**
>
> **Defense of the American people against the kind of nuclear attack which Communist China is likely to be able to mount within the decade.**
>
> **Protection against the possibility of accidental attacks from any source.**

He further elaborated that:

> **We will provide for local defense of selected Minuteman missile sites and an area defense designed to protect our bomber bases and our command and control authorities.**
>
> **By approving this system, it is possible to reduce U.S. fatalities to a minimum level in the event of a Chinese nuclear attack in the 1970s, or in an accidental attack from any source.**

As the President has indicated, rather than focusing on a single purpose, Safeguard has been and continues to be designed to achieve *several* objectives against a combination of Soviet and Chinese threats.

The President also stated that "this program will be reviewed annually from the point of view of (a) technical developments, (b) the threat, and (c) the diplomatic context including any talks on arms limitation." And, as he reminded the nation in his report on foreign policy, we also promised last year that "each phase of the deployment will be reviewed to ensure that we are doing as much as necessary but not more than that required by the threat existing at that time."

In accordance with this commitment, information was developed on various alternative courses for consideration, and a thorough review has been accomplished by the Defense Department, including the Joint Chiefs of Staff, by the National Security Council, and the Defense Program Review Committee. These reviews led to the President's decision that a further but carefully measured and modified defensive deployment should be requested in FY 1971.

Communist Chinese Threat

Communist China has continued to test nuclear weapons suitable for missiles. Estimates of the date by which they might have an initial ICBM capability vary from 1973 to the mid-1970s. In either case, we must proceed with the area coverage of Safeguard if we are to protect our population from this threat in the late 1970s.

As a further point, however, regarding the Chinese threat, the President made it clear that we are concerned with the very likely prospect of the Chinese gaining an operational capability within the next 10 years. Our past history has shown that where we have avoided important decisions and there is a dramatic revelation of adversary progress affecting our security, the American people and the Congress rightfully have become aroused and have demanded immediate and forceful but expensive responses on a crash basis. Sputnik was a good example.

We know that the Chinese have the capability of testing an ICBM in the immediate future and that they are likely to have an operational capability in the next several years. A measured and orderly deployment of Safeguard, taking only the minimum steps necessary to preserve our ability to meet the threat as it evolves, is both the most prudent and most economical course we can pursue.

Soviet Threat to Minuteman Deterrent

As described earlier, it is apparent that the growth of Soviet forces could present a severe threat to the survival of the Minuteman and bomber forces by the mid-1970s. We are now faced with the following possibilities concerning Minuteman:

- That the Soviets do not increase the deployment of the SS–9 and the SS–11, do not develop a MIRV for the SS–9, and do not improve the ICBM accuracy. Under these circumstances there is no need for a defense of the Minuteman force.
- That the Soviets stop building ICBMs beyond those now operational or started; they do not develop a MIRV for the SS–9; but they do improve the accuracy of their entire ICBM force. Under these circumstances, the force could constitute a threat to the Minuteman force and Safeguard would be quite effective against that threat.
- That the Soviets deploy a MIRV on the SS–9, improve their ICBM accuracy, and do not stop building ICBMs at this time, but continue building them at their present rate. We would then be faced in the mid-1970s with a threat which is much too large to be handled by the level of defense envisioned in the Safeguard system without substantial improvement and modification.

The foregoing factors presented us with a most difficult decision involving three basic choices:

- Should we react to the threats which are possible for the mid-1970s and pay, beginning immediately, the cost of this concern?
- Should we hope that the threat is only modest and stay with the pres-

ent Safeguard deployment?

- Should we assume there will be no serious threat and do nothing?

To be perfectly candid, it must be recognized that the threat could actually turn out to be considerably larger than the Safeguard defense is designed to handle. That is one reason we have decided to pursue several courses which should lead to less expensive options for the solution to this problem than expanding Safeguard to meet the highest threat level. We have further decided to continue deployment of Safeguard because the additional cost needed to defend a portion of Minuteman is small if the full area defense is bought. Safeguard can also serve as a core for growth options in defense of Minuteman, if required.

If, in the future, the defense of Minuteman has to be expanded, new and smaller additional radars placed in Minuteman fields would be less costly than the Safeguard missile site radar because they would not have to cover such large areas. For this reason, we will pursue a program to determine the optimum radar for such a defense and begin the development of this radar and associated components in FY 1971. At the same time, the Air Force will pursue several other options for solving the survivability problem of the land-based missile systems. These will include several concepts involving the Minuteman missile on transporters, in one case a system in which the missile can be moved rapidly into one of many hard shelters —the shelter-based Minuteman. The Air Force will also continue to examine the value of increasing the hardness of the silos in which Minuteman is now based or could be based. These are all research and development programs only, in the FY 1971 budget.

There are, then, several options. The Safeguard defense will serve as a nucleus. We can add a hardpoint defense system if necessary or we may later choose to base part of the force in a different basing concept than the present force. Proceeding with further deployment of Safeguard in FY 1971 postpones the necessity of committing ourselves now either to a mobile Minuteman (on land or afloat) or to further hardening of Minuteman silos. However, should the Soviet threat continue to grow beyond levels that can be reasonably handled by active defense, I can assure this Committee that I will not hesitate at any time to recommend accelerated development of ULMS should the nature of the threat warrant it in the future. . . .

In summary, our decision now to proceed with further deployment of Safeguard gives us another year in which to pursue SALT without ourselves exacerbating the arms control environment through actions on offensive systems. We can do this while still providing a hedge against moderate threats and an option to meet, if necessary, a heavier threat.

Also, production of Soviet nuclear-powered ballistic missile submarines is continuing at two shipyards. By the mid-1970s the Soviets will probably have a submarine force capable of destroying most of our alert bomber and tanker force before it can fly to safety. This same submarine force threatens our National Command Authorities. We need the Safeguard area defense to blunt the first few minutes of such attack so that our bombers can escape and our command system can execute its prime function. Otherwise, we must turn to expensive alternatives such as rebasing or continuous airborne alert.

Strategic Arms Limitations

Naturally, the recommendation we are making for the continued but carefully limited deployment of Safeguard defenses is in full recognition that Strategic Arms Limitation Talks with the Soviets will resume in April for the discussion of many complex issues. Among the factors that have led us to recommend this measured and modified continuation are both the continued growth of the Soviet strategic threat to the United States, and the fact that many possible agreements with the Soviet Union could include some form of missile defense—which would be consistent with our national security objectives and the le-

The Soviet SS–9 intercontinental ballistic missile.

gitimate security interests of the Soviet Union. The decision to begin a modified phase II deployment does not preclude an agreement on low ABM levels.

In addition, it must be borne in mind that the Soviets have no control over the Communist Chinese, whose threat we must therefore cope with regardless of SALT. As President Nixon recently stated: "Ten years from now, the Communist Chinese, among others, may have a significant nuclear capability . . . then it will be very important for the United States to have some kind of defense so that nuclear blackmail could not be used."

An orderly, measured, flexible but ongoing Safeguard defense program will help maintain our relative positive position in SALT and improve the chances for a successful outcome.

An important part of our proposed program is its flexibility. It can be modified as required by changes in the threat which result from arms limitation agreements or unilateral actions by the Soviets or Chinese Communists. In the meantime, it is essential that we continue this defensive program.

Summary

We have made no irrevocable decisions with regard to new strategic force programs. The FY 1971 budget is a transition budget. It is designed to preserve the basic capabilities we currently have while retaining key options until a clearer picture of the future strategic environment emerges. This should come from our own continuing review and from such other factors as SALT and the changing threat.

The strategic offensive forces we plan to maintain in FY 1971 include 552 B–52 and FB–111 bombers, 1,000 Minuteman and 54 Titan II ICBM launchers, and 656 Polaris and Poseidon SLBM launchers; the strategic defensive forces will include about 650 manned interceptors, and about 1,400 surface-to-air missiles on site.

Figure 5 is a summary of selected major strategic programs and associated funding proposed for FY 1971.

Strategic Programs, Proposed Funding

	($ Million)
Initiation of engineering development of Advanced Manned Strategic Aircraft (B–1, AMSA)	100
Initial procurement of Short-Range Attack Missile (SRAM) and continued development of Subsonic Cruise Armed Decoy (SCAD)	297
Continued procurement of Minuteman III missiles and Minuteman force modernization	686
Research and development on Minuteman hardening and rebasing concepts	77
Conversion of six SSBNs to Poseidon configuration	1,017
Advanced development of the Undersea Long-Range Missile System (ULMS)	44
Continuation of engineering development on Airborne Warning and Control System (AWACS)	87
Development and deployment of new satellite strategic surveillance system	219
Continued deployment of Safeguard	1,490

Figure 5.

A more detailed discussion of these and other programs is contained in Appendix B [beginning on page 16].

Appendix A

Size and Character of the Strategic Threat

* * * * *

As noted earlier, during the period when the United States enjoyed a substantial superiority over the Soviet Union, the defense planner had a greater margin of safety within which to design our future posture. Today, when the strategic balance with the Soviet Union is so precarious and Communist China is on her way to becoming a nuclear power, the margin for error in defense planning has virtually disappeared.

Therefore, today more than ever before, we must choose very carefully our future posture based on the best information attainable, for mistakes in the current strategic environment can have far-reaching consequences for the future security of this country.

The Soviet Strategic Threat

Summarized in Figure 6 are the approximate Soviet strategic offensive forces currently estimated operational for Sept. 1, 1968, and Sept. 1, 1969. The programmed U.S. forces for those dates are shown for comparison. This table is similar to those presented in previous annual statements by the Secretary of Defense.

Intercontinental Ballistic Missiles

Last year, in the statement submitted by Secretary Clifford, it was estimated that the Soviets had a total of 900 ICBM launchers operational as of Sept. 1, 1968, compared with 570 in mid-1967 and 250 in mid-1966. This growth has continued, and it is estimated that they had 1,060 operational ICBMs on launchers as of Sept. 1, 1969, an increase of 160 in one year. Almost all of this increase is accounted for by the new SS–9s and SS–11s. The remainder of this increase is accounted for by deployment of the new solid fuel SS–13. The estimated number of older ICBMs (SS–7 and SS–8) for that date is the same as reported for Sept. 1, 1968.

By mid-1970, it is projected that the Soviets will have over 200 more operational ICBMs on launchers. The number of operational SS–9s and SS–11s is expected to increase substantially by mid-1970. In addition, a small increase in numbers of SS–13s is predicted.

It is estimated that the number of operational ICBMs will continue to increase through mid-1971. Beyond mid-1971 the projections become less firm. . . . I would note that if Soviet deployment continues at the average rate of the past several years, the figure of 2,500 launchers that I referred to last spring could be attained by the mid-1970s. However, I am not offering that figure as a forecast, but rather as a possibility which I, as Secretary of Defense, must take into account in planning.

The Soviets are continuing to develop a retrofired weapon which could perform as a depressed trajectory ICBM, a fractional orbit bombardment system, or a dual system. Because of the uncertainties concerning the characteristics and purposes of this weapon system, no deployment estimates are possible. Therefore, they are not considered as separate systems at this time but instead are counted with the SS–9, which is the booster used for these weapons. It is possible that a small number of these weapons are already deployed in SS–9 silos.

Although the increases in numbers of Soviet ICBMs are significant in their own right, the debate on strategic forces last year quite properly highlighted the importance of qualitative factors such as accuracy and payload, and these should also be considered.

At the present time, the accuracy of the SS–9 with a single large warhead is considered sufficient to destroy a Minuteman in its silo, and it is estimated that the accuracy could be further improved.

Development and testing of the three-reentry-vehicle configuration of the SS–9 continues. Whether this is more accurately described as multiple reentry vehicle (MRV) or multiple independent reentry vehicle (MIRV) in the terminology we use, or whether there is any such meaningful distinction in the terminology the Soviets use, is not quite clear at this time. However, it is agreed within our intelligence community that the Soviets are likely to develop MIRVs, as we define them, in the next few years.

We also have indications that modifications are underway on the SS–11. We do not have sufficient information to provide a firm estimate of the objective of these modifications.

As noted earlier, there are no clear indications at this time concerning the longer-term Soviet objectives for their ICBM force, either in quantity or quality. The intelligence community in its most recent projections has identified a range of possible future Soviet ICBM *reentry vehicles* on launchers, based on a series of assumptions with respect to force deployments and technology. No "most likely" case was projected. These deployment estimates range from a "low force-low technology" effort to a "high force-high technology" effort.

If the Soviets follow a low force-low technology approach they could have a few soft target MRVs by mid-1970

U.S. vs. Soviet Intercontinental Strategic Offensive Forces

	1 Sep 1968		1 Sep 1969	
	U.S.	Soviet	U.S.	Soviet
ICBM Launchers [a] [b]	1,054	900	1,054	1,060
SLBM Launchers [c]	656	45	656	110
Total Launchers	1,710	945	1,710	1,170
Intercontinental Bombers [d]	646	150	581	140–145
Total Force Loadings [a] Weapons [b]	4,200	1,100	4,200	1,350

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[a] U.S. and Soviet ICBM launchers used for training and development are excluded. Only SLBMs on deployable nuclear submarines are included in total force loadings. Total force loadings are for mid-years.

[b] The intelligence community believes the Soviets could have deployed a simple multiple reentry vehicle (MRV) on the SS–9 late in 1969, and that a more advanced MRV system on the SS–9 is possible in late 1970 if the current SS–9 test flights are intended to develop that capability. If the present SS–9 test program is not aimed at a multiple independent reentry vehicle (MIRV) capability, a follow-up system is probable which could provide the Soviets a MIRV capability as early as 1972.

[c] In addition to the SLBMs on nuclear-powered submarines, the Soviets have SLBMs on diesel-powered submarines whose primary targets the intelligence community estimates to be strategic land targets in Eurasia. The Soviets also have submarine-launched cruise missiles whose primarily targets are believed to be naval and merchant vessels.

[d] Only heavy bombers which could fly two-way intercontinental missions are included. In addition, the Soviets have about 50 bombers believed configured as tankers. These could be converted to a bomber role in a relatively short time The Soviets also have a force of over 700 medium bombers and tankers in long-rang aviation capable of striking Eurasian targets.

Figure 6.

and the first hard target MRVs as early as mid-1972. If they followed a high force-high technology approach they would probably skip the MRV and move directly to MIRV, in which case they could have their first MIRVs by mid-1971 and a very formidable hard target kill capability by the mid-1970s. Even with a low force-low technology approach, the hard target kill capability would be considerable.

Submarine-Launched Ballistic Missiles

As already noted, the Soviet Union has surpassed us in numbers of ICBM launchers; we believe that they are now building a ballistic missile submarine force which will be roughly comparable in numbers to our present Polaris fleet. Construction of the new X-class nuclear-powered ballistic missile submarine with 16 tubes continues. We estimate that several of this class were operational as of Sept. 1, 1969, and several more by Feb. 1, 1970. . . .

It is estimated that the total number of Soviet submarine-launched ballistic missile (SLBM) launchers on deployable nuclear submarines increased from 45 on Sept. 1, 1968, to about 110 on Sept. 1, 1969, and further increases are projected through mid-1971. All of this growth is accounted for by the deployment of the Y-class submarines. In early 1969, it was projected that the Soviets could have some 35–50 of these ships, 560–800 SLBM launchers, in 1975–1977. It is now projected that this "end strength" could be achieved in 1974–1975.

One significant development noted this past year has been the testing of a new, probably naval-oriented, ballistic missile. This could possibly be the sawfly missile that was noted in a Soviet parade in 1967, and which at that time was described as a new naval missile.

Manned Bombers

The third element of the Soviet intercontinental strategic offensive forces—Soviet long-range aviation—remains essentially the same as noted in previous years. There is still no evidence that the Soviets intend to deploy a new heavy bomber.

In addition to about 150 Bear and Bison heavy bombers and about 50 Bison tankers currently in inventory, the Soviets also have more than 700 medium bombers and tankers. . . .

Medium Range Ballistic Missiles/ Intermediate Range Ballistic Missiles

No significant changes have occurred in the overall size of the Soviet medium range ballistic missile (MRBM) and intermediate range ballistic missile (IRBM) forces during the last year. Although no specific new IRBM developments have been noted, it appears that research and development on MR/IRBM continues, as does investigation of solid propellants for these missiles.

Manned Interceptors

The Soviet strategic interceptor force now consists of several thousand aircraft, and is continuing the slow downward trend which has been in evidence for some time. Moreover, a large percentage of that force still consists of subsonic or low-supersonic models introduced in 1957 or earlier, *i.e.*, MIG–17s, MIG–19s, and YAK–25s. Most of these older models are day fighters and are armed with guns or rockets. A smaller portion of the force is composed of supersonic, all-weather interceptors introduced in 1959–64, which are armed with air-to-air missiles. A still smaller portion of the force is made up of new aircraft, *i.e.*, YAK–28s, TU–28s and Flagon-As. However, there has been a 5-percent increase in new aircraft during the past year. And, the last two models still appear to be in production, and thus should continue to enter the force.

Beyond the Flagon-A is the Foxbat, a very high performance interceptor. This aircraft may have entered the production stage and the first few could enter the force in 1970.

As the newer model interceptors are introduced into the force, a continuing moderate decline in numbers of interceptors is predicted, although the overall effectiveness of the force should increase.

Surface-to-Air Missiles

Soviet surface-to-air (SAM) systems provide good medium and high altitude defense against subsonic and low-supersonic aircraft and some air-to-surface missiles (ASMs) under all weather conditions. Evidence gained during the past year has reinforced the judgment of the U.S. Intelligence Board that the SA–5 is a long-range SAM system and that it is unlikely to have an anti-ballistic missile (ABM) capability at this time. However, some members of the intelligence community still feel the state of available evidence is such that an ABM role cannot be excluded for the SA–5 system.

Ballistic Missile Defense

During the past year the Soviets appear to have brought a number of the Moscow ABM complexes (ABM–1) to an operational status. Testing of what appears to be an improved Galosh missile has been noted, and such a missile could be available in the near future. No firm estimate of possible capabilities of this improved missile is available. Research and development related to a new ABM system has also continued.

For ballistic missile early warning, and initial tracking, the Soviets rely primarily on large phased array dual radars. . . .

The Chinese Communist Nuclear Threat

Last year, in connection with our consideration of Safeguard, we conducted an extensive review of the available data on the progress of the Chinese Communist ballistic missile programs. A recent National Intelligence Estimate has augmented this review and provided supplementary information on both the ballistic missile and bomber programs.

There are four major activities involved in preparing for deployment of a nuclear weapons force: nuclear materials production, nuclear weapons development and testing, delivery vehicle development and testing, and construction of delivery vehicle production facilities.

Nuclear Materials Production

The Chinese Communists have been producing U–235 since about 1963. We believe they are also producing plutonium. The actual use of plutonium showed up for the first time in the December 1968 test of a thermonuclear device, CHIC–8.

In their tests of thermonuclear devices the Chinese have also demonstrated the capability to produce both enriched lithium and heavy water. They have an ample supply of natural uranium.

The amount of U–235 now estimated to be available for stockpiling would be sufficient for only a few dozen weapons of any type. Continued production of U–235 will help increase China's stockpile. Nevertheless, a further expansion of fissionable materials production facilities may be required if a large scale nuclear weapons production capability is to be realized. If a second U–235 plant is built, at least three years would be required before production could begin.

Nuclear Weapons Development, Testing

From Oct. 16, 1964, to the end of September 1969, a period of about five years, the Chinese detonated 10 nuclear devices. Six were air-dropped. two were detonated on a tower, one was delivered by a missile, and one was detonated underground. Six of the last eight tests involved thermonuclear devices. The first of these was detonated in May 1966 and produced a yield of more than 200 kilotons (KT). The second was detonated in December 1966 and produced a yield of a few hundred KT. The third was detonated in June 1967 and produced a yield of about 3 megatons (MT). The fourth, detonated in December 1967, was also a thermonuclear device but was a probable failure since it produced only 15–25 KT. The next, detonated on Dec. 27, 1968, produced a yield of about 3 MT. The latest test on Sept. 29, 1969, was also thermonuclear, with an approximate yield of 3 MT.

Thus, with only relatively few shots, the Chinese have made more rapid progress than any other nation. . . .

Four of the last five thermonuclear devices were probably air-dropped by a medium range bomber. With only their fourth test the Chinese delivered by missile a fission device yielding about 10 KT. Should the Chinese decide to deploy an MRBM in the immediate future they would have to rely on fission warheads for this purpose.

Delivery Vehicle Development, Testing

The Chinese Communists have been working on an MRBM for a number of years. By 1965, activity at the principal missile test range had become very noticeable. And, as noted earlier, they actually delivered a nuclear device with a missile in the October 1966 test. By the summer of 1967, the rate of test firings greatly exceeded the level considered normal for a research and development program, leading the intelligence community to believe that deployment might be imminent. Yet, two and one-half years later, we still have no hard evidence that an MRBM is actually being deployed, although we continue to note indications that they are moving toward such a deployment.

The MRBM program may have been delayed by technical problems with the missile itself. Or, it may have been disrupted by the Cultural Revolution. There is even the possibility that the Chinese never intend to deploy their first generation MRBM, choosing to wait for a more advanced missile and warhead. In any event, we believe that it is possible for the Chinese to have a force of 80–100 operational MRBMs by the mid-1970s. Although this system does not pose a direct threat to the United States, it would threaten certain U.S. bases and allies in the Far East.

Given the experience already acquired with the MRBM, however, there is no reason to believe that the Chinese cannot in time develop and deploy an ICBM. We know that a large ballistic missile launch facility already exists. In fact, it was the construction of this facility, which probably began in 1965, that led the intelligence community in late 1966 to estimate that the Chinese Communists could launch their first ICBM (or space shot) before the end of 1967. While there is as yet no convincing evidence that they have begun flight testing from that facility, we still believe that they will attempt to test launch their first ICBM or space booster in the near future.

Should an ICBM become available for testing within the next few months, initial operating capability (IOC) could be achieved by early 1973. It is more likely, however, that IOC will be later, perhaps by as much as two or three years. If the earliest possible IOC were achieved, the number of operational launchers might fall somewhere between 10 and 25 in 1975. . . .

Delivery Vehicle Production Facilities

We have known since 1963 that the Chinese Communists were constructing a large ballistic missile production facility. Whether ICBMs are now being produced there is still not known, but some MRBMs probably are.

The Chinese are estimated to have a limited number of TU–16 Badger aircraft currently in inventory. We believe that the TU–16 would probably be the principal nuclear delivery system for the near future.

Although the Chinese have one Soviet-type G-class diesel-powered missile launching submarine which they continue to work on, we have no evidence that they have developed a missile for it. Moreover, diesel-powered submarines with their limited endurance and high noise levels do not pose a large threat against the continental United States.

In summary, it appears that the Chinese Communists are proceeding with their medium-range bomber program to provide a limited nuclear delivery capability at an early date in the Asian area, out to about 1,600 nautical miles, and concurrently are proceeding with MRBM and ICBM development. But, the intelligence community believes that the Chinese face some hard choices in the near future regarding the overall direction of their nuclear weapons program, the associated delivery vehicles, and the consequent impact on their general purpose forces. In addition to the problems of military versus domestic resource allocation, and allocation within the military forces, the current Sino-Soviet dispute is also likely to have an affect on their decisions. What these decisions will be we cannot now forecast.

In any event, the Chinese Communists seem to have all of the major elements required for the production and deployment of ICBMs. After examining the available data, we have concluded that the potential threat is very real, and that they will ultimately deploy a force of ICBMs. What is still uncertain is when they will start deployment and how large and how good a force they will have by the mid-1970s and beyond.

Appendix B

U.S. Strategic Force Programs for FY 1971

The specific Strategic Forces programs we are recommending for FY 1971 are:

Strategic Offensive Forces

Strategic Bomber Forces

The manned bomber forces proposed for FY 1971 reflect a number of changes since submission of the original FY 1970 budget a year ago.

In the amendments to the FY 1970 budget we decided to cut off the FB–111 program at four squadrons, rather than buying six squadrons as planned in the original budget. The FY 1969 procurement of this aircraft was reduced from 70 to 42, and the FY 1970 buy was eliminated. The FB–111 has a relatively small payload, and we believe the B–1 is a more appropriate solution for a longer-term bomber program.

. . . Our *tentative* program now calls for all four [FB–111] squadrons to be operational by the end of FY 1971. . . . However, it should be emphasized that the entire F–111 program is being reexamined as a result of the more recent structural problems encountered with the fighter version. . . .

All of the B–58s are being phased out in FY 1970. Eliminating these aircraft and their logistic support structure, and retaining additional B–52 C/Fs instead, permits savings in operating costs.

A year ago the Air Force planned to maintain eight squadrons (132 authorized active inventory aircraft) of B–52 C/F aircraft. . . . This past year, to offset the phase-out of the B–58s, as well as the reduction in the planned FB–111 force, we decided to retain three additional squadrons of B–52 C/Fs through FY 1970. . . .

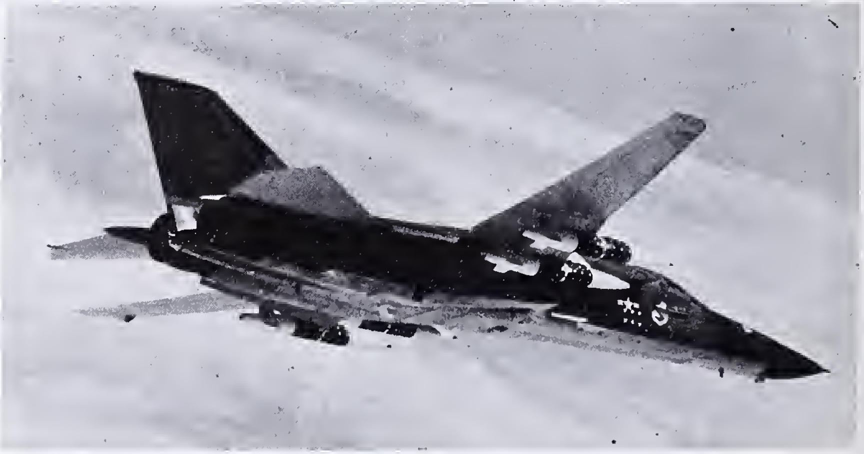
In FY 1971 we plan to eliminate one squadron stationed in Southeast Asia and one Continental U.S. (CONUS)-based squadron. This will leave a total of 12 B–52 C/F squadrons, 10 based in CONUS (including two Southeast Asia rotational squadrons) and two stationed in Southeast Asia. . . .

The existing force of B–52 G/Hs, together with their Hound Dog air-launched missiles, will be maintained through FY 1971.

To enhance the pre-launch survivability of our strategic bombers against the potential Soviet SLBM threat, alert aircraft are being dispersed over a greater number of bases. Some satellite bases will be added to the 28 existing main bases. Each satellite base will have the minimum facilities needed to support alert aircraft, including both tankers and bombers. Several satellite bases are scheduled to be in operation by end FY 1970, and all of them by end FY 1972.

Another important part of the bomber force program involves measures to increase bomber penetration capability. The major current effort in this area is the short range attack missile (SRAM) now in the final stages of development. SRAM is an air-to-surface missile designed to be carried on the B–52 G/H, FB–111 and B–1, for use against terminal defenses.

The program proposed by the outgoing Administration a year ago would have initiated procurement of operational missiles and SRAM modifications on B–52s and FB–111s in late FY 1969. Because the program was still experiencing developmental difficulties, principally in connection with the missile's solid rocket motor, we decided in our initial review of the FY 1970 budget to defer missile procurement and aircraft modification. The bulk of the funds available in FY 1969 and requested in FY 1970 for these purposes were deleted, but some additional funds were provided for research, development, test and evaluation (RDT&E) to help absorb some of the overhead costs which otherwise would have been charged to procurement. Furthermore, the production options in the existing fixed-price incen-



Short range attack missile (SRAM) now in final stages of development.

tive contract were permitted to lapse last year, limiting the current contract to development only.

We plan to pursue SRAM development through testing before a commitment to production is made. If the test results are satisfactory, a new production contract will be awarded and the fabrication of production tooling would be started with the $10 million provided in FY 1970 for that purpose. The FY 1971 request includes $46 million for RDT&E which, together with the additional $9.7 million we propose to reprogram for this purpose in FY 1970, will fund all but $6 million of the total estimated SRAM development cost ($434 million). Also included in the FY 1971 budget is $110 million for missile procurement (including missiles, spares and other items) and $107 million for aircraft modifications ($93 million for B–52s and $14 million for FB–111s).

Work on the subsonic cruise armed decoy (SCAD), an advanced bomber penetration aid which is intended to counter the Soviet area defenses, will also be continued in FY 1971. The characteristics of SCAD will be more precisely defined in the next several months. It is planned to proceed with the development of actual hardware in FY 1971, and $33.6 million has been included in the budget for that purpose. We may ask two contractors to develop prototype flight vehicles before deciding which one to procure for the operational inventory.

Missile Forces

The planned missile force program for FY 1971 is similar to that presented last year—1,000 Minuteman, 54 Titan IIs, and 656 SLBMs. The major changes from last year concern the Minuteman III deployment rate and the Poseidon conversion program.

Minuteman. Last April, in the amendments to the FY 1970 budget, the Minuteman III deployment rate was reduced. We plan to maintain this lower rate of deployment through the FY 1971 funding period which will cause some delay in the planned completion of the force modernization. As noted in last April's testimony, more Minuteman Is will be retained in the force to compensate for the slower deployment of Minuteman III.

The initial procurement of Minuteman III missiles was made in FY 1969, and additional missiles are being bought in FY 1970. We have reduced the planned Minuteman III FY 1970 procurement by deferring 16 test and spare missiles to a later year. A total of about $686 million is requested in FY 1971 for the Minuteman procurement program, including about $475 million for the procurement of additional Minuteman IIIs in order to support the planned deployment rate and to provide for operational testing.

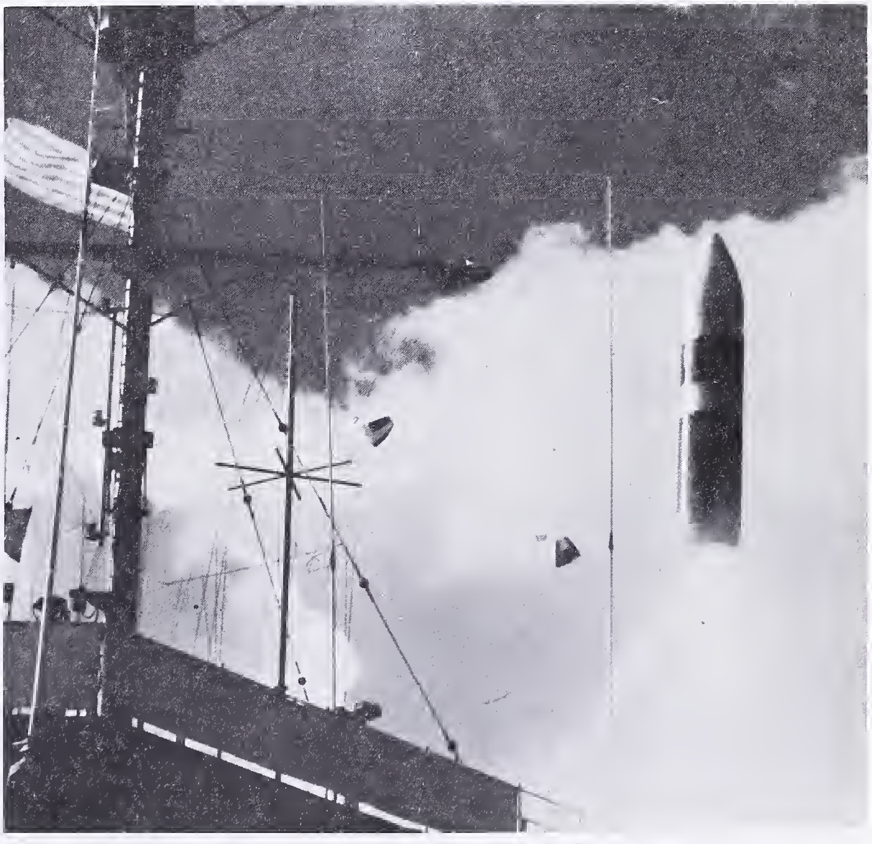
We also plan to continue our effort to provide additional protection for all Minuteman IIs against nuclear radiation effects while in flight. Some of the Minuteman IIs should be hardened to withstand these effects by late 1970. The total cost of hardening the rest is estimated to be about $107 million. About $8 million was provided in FY 1970, about $40 million is requested for FY 1971, and the balance will have to be financed in future years.

Two aspects of the Minuteman operational testing program are worthy of note. . . . The Air Force plans to conduct the first tests in FY 1971 and additional tests in future years. In addition, we now propose to actually launch one or more missiles (without warheads) from operational silos to demonstrate combat readiness and acquire a full systems evaluation of a complete firing. A total of about $31 million has been included in the FY 1971 budget for this purpose, mostly for research and development on special equipment needed for safety and for directing and monitoring the launches.

Several concepts to reduce Minuteman basing vulnerability are currently being investigated. A total of $77 million is included in the FY 1971 budget to initiate development work on the most promising concepts that emerge from this investigation.

Titan II. There will be 54 of the large warhead Titan IIs in the forces at the end of FY 1970 and 1971, the same program as proposed last year.

Polaris/Poseidon. Although we still plan to convert a total of 31 nuclear-



The U.S. Navy's 16th Poseidon missile launched from the USS Observation Island, a sea-going experimental launch base.

powered submarines (SSBNs) from the Polaris to the Poseidon configuration, the changes made by the Congress last year have necessitated another rescheduling. Two conversions were authorized for FY 1968 and two more for FY 1969. For FY 1970, we requested six, but the Congress provided funds for only four.

The Poseidon test program through January 1970 has achieved 11 successes in 15 firings, and is well ahead of the Polaris program at a similar stage of development. . . .

The test data on the Poseidon program has been carefully reviewed. It appears that Poseidon will meet and perhaps exceed its development test objectives. . . . Accordingly, we propose to start six more conversions in FY 1971, leaving 17 to be funded in later years. . . .

The Poseidon conversions are planned to be performed at the time of a normal overhaul. . . . All eight SSBNs thus far authorized for conversion are now in the shipyards. The first Poseidon equipped SSBN is scheduled to be deployed in January 1971.

New Strategic Offensive Systems

Contractor proposals on the new B–1 intercontinental bomber are now being evaluated by the Air Force. Source selection is scheduled for May 1970, at which time it is planned that contracts will be awarded for engine and system development. However, no production decision need be made at that time.

Because the FY 1970 appropriations were enacted so late in the year, and because of other delays in the program, we expect to use only about $40 million of the approximately $100 million made available for that year. In addition, $4 million is available from FY 1969 funds. Thus, we already have $64 million which can be applied to the FY 1971 development program. These funds, together with the $100 million requested in the FY 1971 budget, will be sufficient to permit engineering development to proceed on an orderly basis.

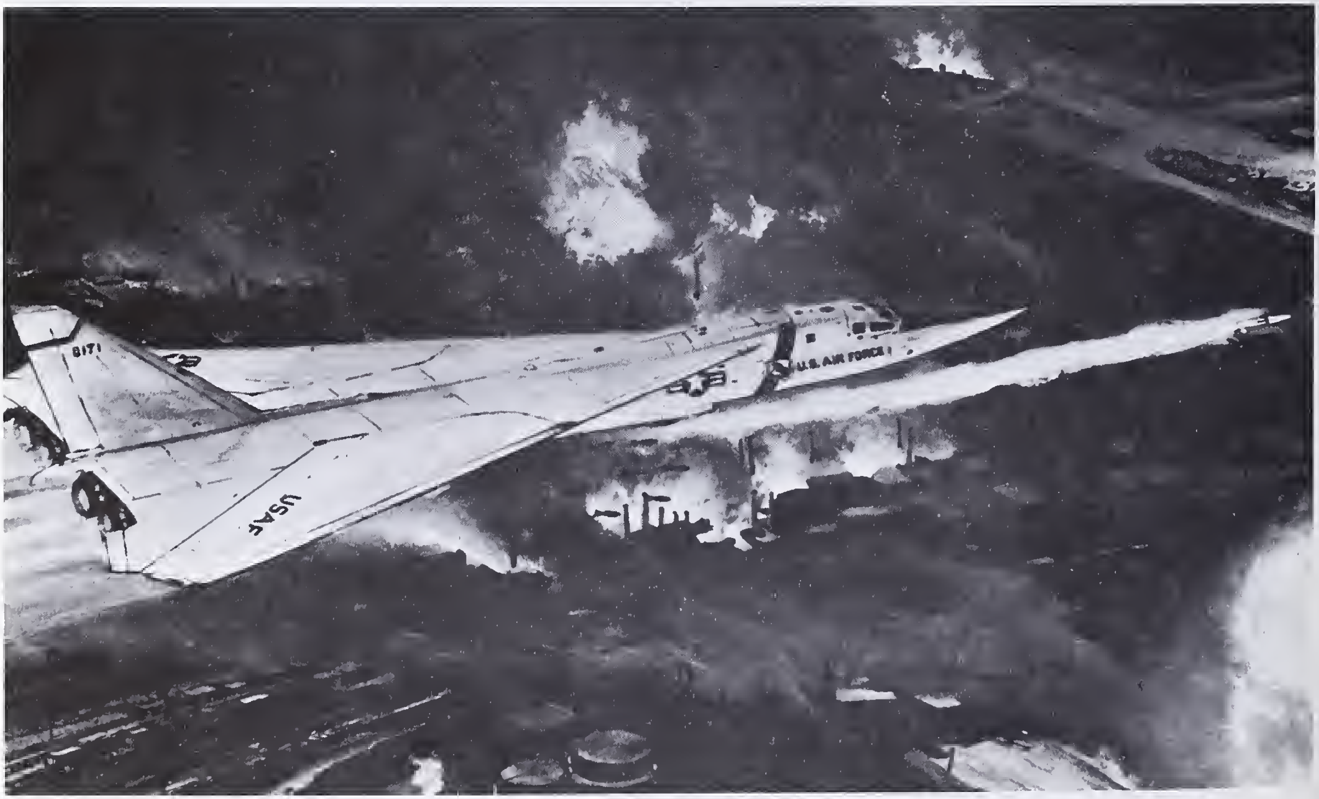
We are also requesting $44 million in the FY 1971 budget to proceed with detailed design studies for the new undersea long range missile system (ULMS). Last year $20 million was originally requested for this project, but the Congress provided only $10 million for preliminary submarine hull design, and studies of the new missile and other portions of the system related to submarine design. The funds requested for FY 1971 will be used primarily for the detailed designs of the submarine and those portions of the weapon system affecting submarine design.

We have also included $6 million in the FY 1971 budget to continue work on technology applicable to advanced ICBM systems.

Strategic Defensive Forces

Bomber Defense

The current bomber defense system, as the Congress is aware, has a limited combat effectiveness and is expensive to operate. Accordingly, while research and development on a modernized system progresses, we plan to



Contractor proposals on the new B–1 intercontinental bomber are now being evaluated.

continue in FY 1971 the phasedown of the existing system in such a way as to make the best use of the remaining forces.

Surveillance, Warning and Control. Extensive revisions are now being made in the surveillance, warning and control systems, including the organization of the command structure. What we are trying to do is to retain a system which, although reduced somewhat from the program planned last year, still provides coverage of the most important threat corridors.

Under the revised plan, the Continental United States and part of Canada have been divided into six Air Defense regions, each of which has one region control center backed up by two BUIC III control centers. In addition, there is one air defense region almost completely in Canada and one in Alaska. The Canadian region also has a region control center, backed up by two BUIC III control centers, plus a manual control center in Labrador. The Alaskan region has a manual region control center. All SAGE region control centers are tied directly into the North American Air Defense Command (NORAD) Combat Operation Center and will manage the air battle in the region (a function formerly performed by the combat centers) as well as conduct the actual intercepts. The Alaskan region control center is also tied directly into NORAD, and is responsible for battle management with the subordinate manual control centers conducting the intercepts.

As a part of the FY 1970 expenditure reduction effort, the number of search radars was reduced from 118 to 112. . . . No further reduction is planned in the number of DEW Line radars beyond the reduction in FY 1970 from 39 to 33. . . .

Last year, in the FY 1970 budget adjustments, we had planned to reduce the EC–121 airborne early warning force, which is quite costly to operate. We subsequently decided to retain three additional EC–121 aircraft in Florida, in order to provide airborne radar coverage over the approaches from Cuba. Interceptor aircraft (drawn from Air Force or Navy resources) are maintained on alert in Florida under NORAD operational control to provide an interceptor capability in the area.

Manned Interceptors. During FY 1970, in addition to the reductions proposed by Secretary Clifford last January, the Alaskan F–102s and the remaining F–104 squadron in the active forces were phased out, and three F–101 squadrons were transferred to the Air National Guard. This leaves for defense of the Continental United States three F–101 squadrons and 11 F–106 squadrons in the active forces, augmented by 3 F–101 and 13 F–102 squadrons in the Air National Guard. In addition, 1 F–102 squadron is stationed in Hawaii for air defense of that area. The last 2 squadrons of F–89s have been phased out of the Air National Guard.

Surface-to-Air Missiles. Although some inactivations of Nike-Hercules batteries were planned in last year's initial budget request, this phasedown was accelerated by the FY 1970 expenditure reduction effort. . . .

Twelve of the Army National Guard Nike-Hercules batteries will be inactivated during FY 1970, three more than contemplated last November. . . .

Finally, one Bomarc squadron was phased out in FY 1970, leaving a total of five in the forces with the remaining assets distributed among the other squadrons.

Air Defense Modernization. The three major components of the air defense modernization program are the airborne warning and control system (AWACS), the over-the-horizon (OTH) radar, and an improved interceptor. Additional research and development funding for each is requested for FY 1971.

Perhaps the most important of the three is AWACS, an airborne surveillance, command, control and communication system consisting of special avionics and a large radar installed in a military version of a commercial jet aircraft such as the DC–8 or 707. The main feature of the AWACS would be the radar's ability to see low-flying aircraft against the surface clutter over land or sea. The technical feasibility of the principal components of such a radar has already been demonstrated in the Overland Radar Technology program. But the only way we can determine how well it will work in actual practice is to develop a full-scale radar, install it in an aircraft together with the other critical components, and test the entire system in an operational environment.

Accordingly, the development program now proposed is keyed to the actual demonstration of a working radar. Engineering development is scheduled to commence in early 1970. The first two and one-half years would be devoted primarily to the competitive development of two different full-scale prototype radars, which would be flight tested sometime in early FY 1972, in the actual aircraft selected for this mission. This would enable us to choose the better of the two radars if we decide to go ahead with AWACS procurement. We see no need for more than one prime systems contractor, however, and this selection will be made in March 1970. The approach we have adopted for this program would limit our initial commitment simply to the flight test of the radars. No decision on procurement need be made until the radar performance is successfully demonstrated, and we do not intend to make any further commitments until that program milestone has been reached. A total of $87 million has been included in the FY 1971 budget to continue engineering development of the system.

The second major component is the CONUS over-the-horizon (OTH) radar, which would provide a distant, all altitude detection line against aircraft approaching the United States from the sea. The purpose of this radar is to provide a long-range bomber detection line, which would alert the AWACS in time to enable it to reach its combat station from ground alert, thus avoiding costly airborne patrols in peacetime.

A total of $3 million has been provided for the CONUS OTH radar in FY 1970 and contract definition is scheduled to be initiated in the near future. An additional $5.3 million is requested for FY 1971, $3.3 million to complete contract definition and $2 million to conduct experiments.

The third major component is an improved interceptor. Inasmuch as the Congress has failed to approve the Defense Department's earlier plan to modernize the F–106 force with a new "look-down, shoot-down" fire control and missile system, we are now examining other aircraft for this role, including the F–14 and an interceptor version of the F–15. A total of $2.5 million was provided in FY 1970, and $2.5 million is requested in FY 1971 to continue studies. . . .

Anti-Satellite Defense and Space and Missile Warning

No changes are planned in the present active anti-satellite defense capability.

Satellite tracking and identification will continue to be provided in FY 1971 by the existing SPADATS system, which is made up of the Navy's SPASUR system and the USAF's SPACETRACK system. . . .

Early warning of ballistic missile attack is currently provided by: (1) the ballistic missile early warning system (BMEWS), consisting of three radar sites guarding the northern approaches, and (2) the "forward-scatter" over-the-horizon radar system. . . .

During FY 1970, a system designed specifically for warning of submarine-launched ballistic missile (SLBM) launches will become operational. This system (474N) consists of seven mechanical scan radars, three on each coast and one in Texas, which provide warning upon launch of enemy SLBMs.

We are also currently developing a new, much more advanced satellite strategic surveillance system which promises a good early warning capability against SLBMs and FOBS (fractional orbit bombardment system), as well as ICBMs. A total of $219 million has been included in the FY 1971 budget for this system.

Civil Defense

A complete review of the Civil Defense Program is now being conducted by the Office of Emergency Preparedness at the direction of the National Security Council. Pending completion of that study, now expected in March, no major changes are proposed in the Civil Defense Program.

. . . We plan to continue in FY 1971 a limited effort to increase the number of identified shelter spaces, particularly in "deficit" areas where they are most needed. . . .

A total of $73.8 million is being requested for Civil Defense in FY 1971. . . .

The situation in South Vietnam is one significant current factor in our General Purpose Forces planning.

General Purpose Forces

The Nixon Doctrine, which was discussed earlier, has a significant impact on our General Purposes Forces. We rely on these forces for all military actions short of strategic nuclear war. Included in this category are most of the Army combat and combat support forces, all of the Marine Corps forces, virtually all of the Navy forces (except ballistic missile submarines), and the tactical units of the Air Force.

As the members of this Committee are well aware, our requirements for General Purpose Forces are based largely on the need to be prepared to help defend the territories of other nations with whom we have mutual defense agreements approved by the Congress, or whose defense is vital to our own national security interests.

We have bilateral or multilateral collective defense treaties with more than 40 countries around the world. These treaties, however, do not define the precise manner in which we are required to fulfill our military obligations. Consequently, these obligations cannot be unalterably translated into clearly defined and measurable force requirements. That is why it is not possible to provide a precise analysis of what our obligations represent in terms of U.S. military forces.

It is quite apparent, however, that our obligations overseas do in fact pose a definite, though imprecise requirement for U.S. General Purpose Forces. The size and character of the forces that should be maintained depend to a large extent on how we plan to meet these obligations under various sets of circumstances and how we assess the extent, size, character, and urgency of the threats to the nations involved as well as the varying capabilities of those threatened nations to defend themselves.

Much has been made of the issue of United States commitments in recent times, and the forces which might be appropriate to fulfill these obligations. Actually, the issue is deeper, as President Nixon has just told us:

> **It is misleading, moreover, to pose the fundamental question so largely in terms of commitments. Our objective, in the first instance, is to support our interests over the long run with a sound foreign policy. The more that policy is based on a realistic assessment of our and others' interests, the more effective our role in the world can be. We are not involved in the world because we have commitments; we have commitments because we are involved. Our interests must shape our commitments, rather than the other way around.**

The President also noted that:

> **The United States, like any other nation, has interests of its own, and will defend those interests. But any nation today must define its interests with special concern for the interests of others.**

We have and must maintain a considerable degree of flexibility in how we choose to be prepared to meet our military obligations under any particular set of circumstances. As you know, the previous Administration chose to design our General Purpose Forces, in the words of Secretary Clifford, ". . . to meet simultaneously two major contingencies (one in Europe and one in Asia) and one minor contingency, as well as a 'War at Sea.' " This policy is popularly known as the "2½ war strategy," although such a description greatly oversimplifies the complexities of General Purpose Force planning.

The review of basic U.S. security policy conducted this past year through the National Security Council process has provided an evaluation of our present capabilities and highlighted many of the factors that must be considered in determining our future General Purpose Forces strategy. On the basis of this review, the President has reaffirmed U.S. support for the agreed NATO strategy and maintenance of substantial forces in Europe. The primary U.S. objective in Asia will be to help our allies develop the capability to defend themselves, while continuing to honor our obligations.

As the President has described it in his report on foreign policy, under our new strategy we will maintain in peacetime General Purpose Forces that are adequate for simultaneously meeting a major Communist attack in either Europe or in Asia, assisting allies to cope with non-Chinese threats in Asia, and in addition, meeting a contingency elsewhere.

We intend to maintain the required ground, tactical air, and naval forces to support this strategy. Some of these forces will be deployed, and others, both active and reserve, will be based in the United States.

In Europe, we plan to maintain the U.S. combat forces currently deployed through FY 1971. These forces, reinforced from the United States, together with those of our NATO allies, should be capable of meeting a major Communist attack in Europe and should also be capable of coping with small or slowly developing crises and attacks.

In Asia, we seek to help our allies develop the capability to defend themselves with the United States providing materiel and logistic support. However, most of these countries lack adequate air and seapower. Considerable time and resources will be required to solve this problem.

As President Nixon noted, our approach to the decade of the 1970s in Asia requires a commitment by the United States to help our partners develop their own strength. He further noted that:

> **. . . we must strike a careful balance. If we do too little to help**

them—and erode their belief in our commitments—they may lose the necessary will to conduct their own self-defense or become disheartened about prospects of development. Yet, if we do too much, and American forces do what local forces can and should be doing, we promote dependence rather than independence.

Thus, we must maintain flexibility with regard to the United States' role in partnership for defense in Asia. There are many uncertainties ahead, and we should be under no illusion that easy answers are available for the complex issues which face us in Asia.

Europe and the NATO Area

The need for an adequate NATO force remains most important as we attempt to move toward an era of negotiations. We intend to continue doing our fair share for the defense of Europe. We have told our allies that we intend to maintain our present combat troop levels in Europe in FY 1971, and our budget has been prepared on this basis.

There has been some improvement in the quality of NATO forces within the last year, but more remains to be done if NATO forces are to have the necessary degree of combat effectiveness and readiness. We will continue to encourage our NATO allies to improve their forces and assume more of the total NATO defense burden.

The President has treated the situation in Europe in some detail in his review of foreign policy. Included in an Appendix is a discussion of the Warsaw Pact Threat. Here, however, I would like to note one more point. As Secretary of Defense, I am concerned about the growing Soviet presence in the Mediterranean Basin.

Soviet influence and presence in this region have increased, and ties with the Arab countries on the eastern and southern edges of the Mediterranean have contributed to this change. Soviet military and economic assistance to Arab countries, for example, has totaled more than $5 billion from 1966 through 1968.

From the strategic point of view, hostile control of the Mediterranean would constitute a grave threat to the security of Europe as well as the U.S. interests in the Near East and North Africa.

Asia, the Pacific and Vietnam

In the Pacific area, we are all familiar with the threat posed by the North Vietnamese. North Korea is also a militarily strong and unpredictable country, with some 350,000 troops and an effective air force of more than 500 aircraft (including MIG–21s). Lying behind these forces is Communist China which has a massive army of close to 2½ million troops and an air force of over 2,900 jet fighters. The Chinese, however, seem to be careful to avoid direct combat involvement of their own personnel in military operations associated with the so-called "liberation movements." Moreover, their current difficulties with the Soviet Union may serve as a restraint to any major military operations outside their own borders. Nevertheless, Chinese Communist ambitions for great power status and regional hegemony are recognized by the nations of Asia as well as ourselves, and China's geographical position and potential for realizing its ambitions pose a pervading psychological and actual threat to the peace and security of the Asian area.

The principal threat to the independent nations in Asia is internal insurgency, supported by external assistance. This is an important aspect of the threat to which our General Purpose Force planning for Asia should be oriented. The situation in Vietnam is obviously the most significant current factor influencing this planning.

Last November, I discussed the situation in Vietnam and our progress in Vietnamization before the Senate Foreign Relations Committee. Since then, President Nixon has announced the third reduction of U.S. forces in South Vietnam, bringing the total authorized strength down from 549,500 established by the preceding Administration to a new total of 434,000 to be attained by April 15, 1970. This represents a reduction in authorized strength of 115,500 troops, or just about 21 percent, in a period of 10 months.

Vietnamization offers the prospect of a situation in which the South Vietnamese can manage without the support of U.S. combat operations, and the prospect, one day, of peace with freedom from external domination.

The policy of this Administration is to continue to reduce the number of U.S. military personnel in South Vietnam based on the criteria set forth by the President:

- Progress in Vietnamization.
- The level of enemy activity.
- Progress toward a negotiated peace in Paris.

Although I believe continued progress in our Vietnamization program will permit further reductions in American forces after April 15, 1970, I will not at this time project U.S. deployments there beyond that date in order to preserve the flexibility which the President requires for his program for peace.

Studies are currently underway to develop force, equipping and support requirements covering accelerated Vietnamization. Specific requirements to support the most effective program for transfer of combat responsibility to the forces of South Vietnam will be under continuing development and review. As such requirements are finalized, they will require funding. In order to provide the funds the Defense Department needs to support this vital program, I have included $300 million in a special appropriation, "Combat Readiness, South Vietnamese Forces." These funds will be available for transfer, upon Presidential determination that such action is necessary, to any appropriation available to the Defense Department. Upon transfer, they would be merged with the appropriations to which transferred and remain available until expended.

In addition, $150 million will be derived by transfer from any appropriations available to DOD for obligation in the current fiscal year. . . .

Military Assistance and Sales

Attainment of the President's goals with respect both to national security policy and the solution of domestic problems requires a judicious and balanced allocation of resources. I discussed earlier the basic problem of resource allocation. An important element of national security policy—and one that will be more important in the future under our new policy—is the Military Assistance Program (MAP).

As President Nixon noted in his State of the Union Address:

> **Peace requires partnership, or we will forever exhaust our resources in a vain and unproductive effort to dominate our friends and forever isolate our enemies.**

The policy of peace through partnership and strength, which marks our new approach to defense planning, must be buttressed by an improved program of military assistance, training, and sales. This is essential to provide our allies with the resources and skills they will need as they assume greatly increased responsibilities for their own defense. I cannot stress too strongly the need for increased understanding of the importance of this program to the success of the Nixon Doctrine.

That is why we believe that military assistance should be integrated into the DOD budget so that we can plan more rationally and present to the Congress more fully an integrated program for peace through partnership and strength.

* * * * *

The challenging objectives we face under the new policy can be achieved only if we and our allies both contribute to them. Each nation must do its share and contribute what it can appropriately provide—manpower from many of our allies; technology, material, and specialized skills from the United States. In many cases, our allies are able and willing to provide the forces if we can contribute some of the needed weapons, and, in some circumstances, specialized military support. Under this approach, each partner would be doing what it can best do and both would benefit.

The Military Assistance Program is the key to this approach. It is the essential ingredient of our policy if we are to honor our obligations, support our allies, and yet reduce the likelihood of having to commit American ground combat units. When looked at in these terms, a MAP dollar is of far greater value than a dollar spent directly on U.S. forces.

In recent years, however, lack of popular support, general concern about U.S. involvement overseas and valid domestic priorities have led to a decline in appropriations. This decline has made it increasingly difficult to enlist the full potential contribution of grant assistance and credit-financed Foreign Military Sales (FMS) toward attainment of the security objectives of the United States.

The President's redefinition of those objectives now makes it more important than ever that these twin instruments of the U.S. policy be put to optimum use in helping to reduce both the monetary and the manpower burden inherent in honoring international obligations.

Many of our most willing and potentially helpful friends and allies simply do not have the resources or technical capabilities to assume greater responsibility for their own defense. Unless we help provide them further assistance, the basic policy of decreasing direct U.S. military involvement—which we are all anxious to effect—cannot be successful. The two-year authorization for military assistance contained in the Foreign Assistance Act of 1969 automatically limits to $350 million the amount which can be appropriated for the FY 1971 program. I am deeply concerned that the funds proposed for FY 1971 may not be adequate. As the President indicated in his budget message, we may well need more before the fiscal year is out.

We are conducting a thorough review of the requirements for grant aid in fiscal years 1970 and 1971. After this review is completed, the Congress will be fully informed about the nature and magnitude of any additional amounts we would propose. Any such amounts would be derived from a thorough evaluation of recommendations from responsible military and civilian officials in the field and at the State and Defense Departments, as well as the Bureau of the Budget.

Meanwhile, the illustrative program for FY 1971 must be based on the $350 million authorization contained in the Foreign Assistance Act of 1969. This anticipated new obligational authority—plus $42 million in estimated reappropriations, recoupments and reimbursements—means that a total of $392 million would be available for grant military assistance. It is important to note that a very high percentage of this total obligational authority is required to provide for operation and maintenance costs which cannot be met by recipient nations from their own resources. Therefore, the amount available for investment in new and modernized equipment is quite small.

Programs for most of the recipient nations already are so modest that it is generally impossible to make any significant reduction in them without negating the whole purpose of the assistance. It has, therefore, been necessary for the substantially larger programs to absorb practically all of the reduction required by cuts in the Administration's budget request for the past several years. As a result, it has been impossible to provide equipment to replace the worn out and obsolescent materiel which is increasingly degrading the combat capabilites of allied forces upon whom we rely as an integral part of our partnership in security.

It is also the policy of the Administration—and indeed it is a matter of law—that we should move our military assistance from a grant to a sales basis as the economies of recipient countries become stronger and more able to support a larger share of their burden. However, we do not wish in any way to hamper their development and thus we are providing credit to ease this transition. The Foreign Military Sales Act which authorizes sales—both cash and credit—is therefore an important instrument of U.S. policy—complementing and eventually supplanting the Military Assistance Program.

All Foreign Military Sales transactions, both cash and credit, are rigidly controlled in order to ensure that they are fully consistent with U.S. foreign policy interests, and that they will neither increase regional tensions nor encourage arms races. When a proposed purchase meets the very strict criteria established both by law and by the Executive Branch, it is clearly in the national interest to provide credit financing to facilitate the sale. These actions relieve some of the pressure on the limited funds available for grant assistance.

The Administration requested $275 million in FY 1970 for Foreign Military Sales and is asking for $272.5 million in FY 1971 to assist in the financing of defense articles and services. The fact that no final action has been taken by the Congress on FMS legislation for the current fiscal year lends strong emphasis to the need for prompt completion of the legislative process for FY 1970 and for favorable consideration of the Administration's proposals for FY 1971.

General Purpose Forces Program for FY 1971

We plan to have 29-1/3 active and reserve Division Force Equivalents at end FY 1970, 3-1/3 less than at the end of FY 1969. However, because of the uncertainties surrounding deployments in Southeast Asia beyond April 15, 1970, we cannot project the detailed structure of our Land Forces for FY 1971. The active Army will decline from 19-2/3 Division Force Equivalents at end FY 1969 to 17-1/3 at end FY 1970 and the active Marine Corps will be reduced from 4 divisions at end FY 1969 to 3 by the end FY 1970.

In FY 1971 we are proposing a force of about 8,300 tactical aircraft, including about 4,600 active fighter/attack aircraft organized into 85 squadrons (23 wings) in the Air Force, 72 squadrons in the Navy (15 attack carriers), and 25 squadrons in the Marine Corps (3 wings).

The major active naval forces which we propose to maintain in FY 1971 include 15 attack carriers, 4 ASW carriers, 52 nuclear and 53 conventional attack submarines, over 500 ASW aircraft and 242 escort ships.

I want to comment on two items that have been of particular concern to me, the F-111 procurement program and the attack carrier program.

Selected General Purpose Forces Programs FY 1971

	($ Millions)
Land Forces	
Continued Development of SAM-D, a New Surface-to-Air Missile	89
Development of New Austere Main Battle Tank	77
Procurement of Helicopters (UH-1s, CH-47s, AH-1s, OH-58s)	197
Procurement of TOW Anti-Tank Missiles	106
Procurement of Improved Hawk and Chaparral Missiles	168
Tactical Air Forces	
Development of F-15 Air Superiority Fighter	370
Development of A-X Close Air Support Aircraft	28
Procurement of F-111s (or alternative aircraft)	484
Development and Procurement of F-14 Multi-Mission Fighter	841
Procurement of AV-6Bs (Harrier) V/STOL	96
Procurement of A-7 Attack Aircraft	350
Naval Forces	
Advanced Procurement for the Third Nimitz-Class Attack Carrier	152
Development and Initial Procurement of the S-3 Carrier Based ASW Aircraft	287
Continued Procurement of the P-3C Land-Based ASW Aircraft	160
Development of a New Ship Air Defense System	75
Construction of:	
3 High Speed Submarines	476
1 Nuclear-Powered Guided Missile Destroyer	221
6 ASW Destroyers	460
2 Multi-Purpose Amphibious Assault Ships	314

Figure 7.

F-111 Program

In developing the FY 1971 budget, we had planned to acquire enough F-111 aircraft to complete our planned force goal. Accordingly, we included in the budget a total of $484 million for F-111 procurement—$283 million for additional procurement of F-111Fs and $200.5 million for payment of prior year over target costs. In addition, we have included $16.5 million for the modification of 10 research and development aircraft to a tactical configuration.

I am sure that the Committee shares my long-standing concern over the F-111 program, particularly in light of the difficulties that have been encountered. For the time being, we have retained in the budget request the planned funding for the F-111s noted before. However, I have asked the Secretary of the Air Force, in connection with an investigation of recent structural and operational difficulties, to examine in detail the alternatives to procuring F-111s in FY 1971. I have postponed a final decision on this matter until this action is completed by the Air Force.

I believe we do need in our tactical air force structure the capability available in the F–111, but I also believe that if we are going to be plagued with a continuation of these problems we must explore other alternatives.

In the event that we decide not to proceed with the additional procurement in FY 1971, we would need to use the funds included in the budget to cover existing F–111 charges and to procure appropriate replacement aircraft.

As you know, we must also consult with the Australian Government on any modifications to the F–111 contract, because it may have an impact on their planned procurement. The Australians had previously agreed to take delivery of the 24 F–111Cs built for them, provided that we incorporate at our expense any necessary structural fixes, even after the aircraft have been delivered.

Attack Carrier Program

Two Nimitz-class nuclear-powered attack carriers (CVAN) have been authorized and funded to date. These two ships (CVAN 68 and CVAN 69) will be built on the same design plans and under the same multi-year contract, which may also contain an option for a third ship. The Navy is currently negotiating a fixed price incentive fee type contract with the shipbuilder, which will establish target and ceiling prices for the first two ships and perhaps for the third ship. Budgeted costs are $536 million for Nimitz and $510 million for CVAN 69 (excluding outfitting or post-delivery costs). However, negotiations are now underway and the Navy informs me that they could result in higher costs. . . .

Included in the FY 1971 budget is $152 million for advance procurement of long leadtime nuclear components and propulsion equipment for the third Nimitz-class carrier, CVAN 70. I want to assure the Committee, however, that none of these funds will be obligated until the study required by the FY 1970 Authorization Act has been completed by the two Armed Services Committees and until we have completed our own current review, in the Executive Branch, of future force requirements. The Navy estimates that if the remainder of the funding for the CVAN 70 is provided in the FY 1972 program, the target end cost of the ship will be about $640 million (excluding outfitting or post-delivery costs) based on estimated FY 1972 labor and material dollars, including escalation reserve based upon 10 percent of the estimated shipbuilder's contract.

Also included in the FY 1971 budget is $21 million to complete funding of a spare set of nuclear components for all Nimitz-class ships; $39 million was provided in FY 1969 and $48 million in FY 1970 for this purpose.

* * * * *

Appendix C

General Purpose Forces Threat

Over the past year, we have seen the Soviet and East European General Purpose Forces continue their growth both in quality and in quantity. The total forces available are described below.

Soviet Union

At the present time, all of the Soviet ground divisions deployed in Eastern Europe are combat-ready. A considerable number of divisions in the Soviet Union, including several airborne divisions, are also considered either fully ready or in a state that would permit very rapid mobilization. A large number of Soviet divisions are only partially equipped and manned, but could be brought up to strength with reservists and augmented with civilian vehicles, and deployed in a relatively short time. The remainder of the Soviet divisions are believed to be in a caretaker or cadre status.

A high density of tanks, many of which are over 15 years old, provides the Soviets on all fronts with heavy direct fire support, in place of conventional artillery. However, recent changes have resulted in a substantial increase in the number of artillery tubes available to the Soviet ground forces. Nevertheless, Soviet techniques for the employment of artillery are not up to U.S. standards. The Soviets also emphasize tactical ballistic missiles and rockets in support of their general purpose forces, and training exercises indicate such weapons would be used. At the present time, two types of tactical ballistic missiles are deployed.

Soviet tactical doctrine apparently calls for all infantry to be mounted on amphibious armored personnel carriers. In this area, however, the Soviets are deficient.

In tactical aviation, the Soviets have several thousand fighters and light bombers in their operational units, plus some older model aircraft collocated with those units. In addition, they have a large number of combat-type aircraft in reserve and in the training establishment. Of the aircraft in operational units, about 40 percent are available for the close air support, air strike and interdiction missions, and about the same percentage for air defense. The balance is available for reconnaissance and reconnaissance strike. Almost all of the air defense elements are now equipped with the all-weather MIG–21 Fishbed, but a large proportion of the ground attack and reconnaissance aircraft are obsolescent MIG–17 Frescos and IL–28 Beagle light bombers.

Soviet tactical fighters are characterized by short combat radii and small payloads; their design and rugged construction allow them to operate from unimproved airfields. These characteristics would permit a high sortie rate from improved bases where sufficient logistics and maintenance support were available. Soviet tactical air doctrine, however, places heavy emphasis on operations from dispersed unimproved airfields; from such airfields the sortie rate would be lowered.

Soviet theater air defenses, particularly in Eastern Europe opposite the Central Region of NATO, have received increased attention in improved equipment and facilities. The improvements have included the continued deployment of the all-weather MIG–21. In their ground environment the Soviets have made a substantial effort to improve their low-altitude surveillance and tracking capabilities with tower-mounted radars. The Soviets have also constructed and continued to construct hardened shelters for their aircraft and some radars, and have resumed the use of extensive and sophisticated camouflage as part of a program to improve the survivability of their forces.

The Soviets are continuing their efforts to improve the capabilities of their tactical aviation and their current developmental program would indicate that at least three new aircraft would be available within the next several years—the swing-wing Flogger, the Foxbat and a V/STOL. Prototypes of these aircraft were exhibited by the Soviets in the summer of 1967.

Soviet tactical aviation also provides light troop transport and utility support for theater ground forces. Although the Soviets appear to recognize the value of armed helicopters, there is no evidence of a helicopter designed specifically for this type of mission. However, some of their existing helicopters appear to be armed with weapons that would be consistent with an armed helicopter role, such as machine guns, rockets, and anti-tank missiles.

The main intertheater lift for theater forces is provided by AN–12 Cub medium transports which have as a main mission the support of airborne troops. Some Cub aircraft have improved range and weight-carrying capabilities.

The Soviets have developed and stockpiled a range of nuclear weapon types for their theater forces. In addition, it appears that toxic chemical agents, including nerve gases, have been developed for use in theater warfare. Soviet forces are also well organized, equipped and trained for defensive chemical warfare.

In the past, the principal and traditional tasks for Soviet General Purpose Naval Forces have been oriented toward the defense of the homeland, including interdiction of sea lines of communication and local area antisubmarine warfare (ASW). More recently, however, we have noted increasing use of the Soviet Navy for politico-military purposes abroad, including deployments to the Indian Ocean and the Caribbean, and over the years a decided strengthening of their Mediterranean squadron.

The Soviets apparently are concentrating on improvements in quality in their naval forces, including improved antisubmarine warfare and air defense. Perhaps the most significant area of concentration is the Soviet submarine construction program. The Soviets in the last few years have developed several new general purpose submarines which are probably now in series production.

At the present time the Soviets have close to 60 general purpose nuclear submarines operational, including more than 30 equipped with cruise missiles. Further growth in this nuclear-powered submarine force is anticipated, but the Soviet diesel submarine force is expected to decrease. It is estimated that the annual construction of Soviet attack submarines could reach 10–14 units, of which a large percentage would be nuclear powered, by the early 1970s. The addition of new attack submarines will be more than offset by the retirement of numerous older medium-range units, but the proportion of nuclear and long-range diesel units will increase substantially.

The Soviet surface forces are also improving in capability, particularly with the deployment of new light cruisers equipped with both surface-to-air and surface-to-surface missiles, and new or converted destroyers with surface-to-air missiles. Although we expect the overall strength of the Soviet surface force to remain relatively constant, we do expect in the near future the replacement of some older ships with missile armed ships.

Although Soviet Naval Air Forces, with the exception of ASW helicopters assigned to the helicopter ships, are land-based, they are a significant and capable component of Soviet naval forces. At the present time, these forces consist of patrol and ASW aircraft (including helicopters) plus medium and light bombers, some of which are equipped to carry air-to-surface missiles.

In general, Soviet naval forces appear to be designed to combat U.S. carriers, logistics ships and submarines. The Soviets are increasingly moving out into open ocean areas, particularly for training exercises related to improving ASW capabilities. In addition, we have noted several out-of-area deployments by Soviet attack submarines, including one into the Gulf of Mexico, and operations in the Mediterranean and the Indian Ocean. Of course, the continued stationing of Soviet intelligence collection ships in the vicinity of U.S. Polaris submarine bases emphasizes their concern about the U.S. nuclear-powered submarine force.

The general trend toward more out-of-area operations is supported by the construction of longer-range combatants and a general upgrading of the naval support organization. However, this support organization remains limited, and in the interim period we believe that the Soviets will continue to use facilities made available by countries such as the United Arab Republic and Syria.

Eastern Europe

In addition to the Soviet forces just covered, the ground troops of East European countries number over 800,000 men. The organization and equipping of these forces is very similar to that of their Soviet counterparts, and many of their divisions must be filled with reservists in the event of mobilization.

There are also available in Eastern Europe a large number of combat aircraft, mostly interceptors. Some of these aircraft are new models, such as the MIG–21, and almost all aircraft delivered by the Soviets to Eastern European countries during the past two years have been the all-weather MIG–21 interceptors.

Although the indicated strength of the East European forces is significant, it should be recognized that events of the past year or so focused attention on the question of their political reliability and availability in the event of armed conflict with the West. For example, a significant number of the troops and aircraft are Czechoslovak, and certainly the currents of nationalism in Hungary, Rumania, and elsewhere in Eastern Europe could raise some question for the Soviets regarding the political reliability of those forces in a conflict. However, prudence demands that we take account of them in our planning.

Asia

Turning to the Pacific, the non-Communist nations in that area are, in general, faced with a different type of threat.

North Korea is a militarily strong country that has demonstrated a dangerous aggressiveness and hostility toward South Korea and the United States. It has some 350,000 troops and an effective air force of more than 500 combat aircraft (including MIG–21s). And Communist China, of course, has a massive army of close to 2½ million troops and an air force of over 2,900 jet fighters. While the Chinese have proclaimed a general line of armed revolution in Asia and actively propagandize against "U.S. imperialists" and "puppet governments," they seem to be careful to avoid involvement of their own personnel in military operations associated with the so-called "liberation movements." Moreover, their current difficulties with the Soviet Union may serve as a restraint to any major military operations outside their own borders.

We cannot overlook the fact that these Asian Communist states, in relation to their neighbors, command large and powerful military forces. These forces must be taken into account in our planning. We must also be prepared to meet the emerging nuclear threat from China, which was discussed in some detail in the section on Strategic Forces.

The principal threat to the nations in Asia is internal insurgency, supported by external assistance. This is an important aspect of the threat to which our general purpose force planning with our allies in that area should be oriented.

Appendix D

U.S. General Purpose Force Programs for FY 1971

Land Forces

The General Purpose Land Forces planned for end FY 1970 are summarized in a classified table furnished to the Committee. Because of the uncertainties surrounding our deployments in Southeast Asia beyond April 15, 1970, we cannot project the detailed force structure for FY 1971.

We plan to have 29⅓ Division Force Equivalents at end FY 1970, 3⅓ less than at the end of FY 1969. This reduction reflects the withdrawals of U.S. forces from Southeast Asia already announced by the President and our re-evaluation of land force requirements.

The proposed reductions apply solely to the active forces; the reserve forces remain unchanged—eight Army and one Marine Corps divisions. The active Army will decline from 19⅔ Division Force Equivalents at end FY 1969 to 17⅓ at end FY 1970, a total reduction of 2⅓ Division Force Equivalents. The active Marine Corps will be reduced from four divisions at end FY 1969 to three by end FY 1970.

We are proposing considerably higher military personnel end strengths for both Services at end FY 1971 than they had at the end of FY 1965—Army 1,239,582 compared with 969,066, and Marine Corps 241,185 compared with 190,213.

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It should be emphasized that these figures should be considered highly tentative, especially for 1971, since some adjustments between Army and Marine Corps may well be in order during the forthcoming year. It is for this reason that we are requesting an increase from $200 million to $300 million, in the transfer authority provided by Section 634 of the FY 1971 Department of Defense Appropriation Bill. This is the General Provision which authorized the Secretary of Defense, if he deems it vital to the security of the United States, to transfer funds from one defense appropriation to another, but not to exceed the total amount stated in the law.

Army Division and Brigade Forces

The principal change in the active Army's major force structure is in the number of infantry divisions, which declines from seven at end FY 1969 to 4⅔ at end FY 1970. The balance of the actual division force structure remains unchanged—one airborne, two airmobile, four mechanized, and four armored divisions, and five independent brigades. The mechanized and armored divisions are oriented principally to our NATO requirements.

No change is proposed in the composition of the division structure of the Army Reserve components.

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We expect that future redeployments will further reduce the Army's active division/brigade force structure in FY 1971.

Army Supporting Forces

The Army combat support forces—such as field artillery and combat engineers, etc.—will be reduced in consonance with the reduction in divisions and brigades. We are retaining, however, a large proportion of the aviation units, which have proved to be so useful in South Vietnam.

With regard to the Army surface-to-surface missile forces, there is little change from the program presented by Secretary Clifford last year. A new surface-to-surface missile, Lance, has been under development for a number of years to replace the Honest John and Sergeant missiles now in the force. The Army now believes the problems encountered with the fuel system for this missile have been solved. Accordingly, we are requesting funds for the procurement of 55 Lance missiles in FY 1971. These missiles will be used principally for inventory and training. The first Lance battalion is scheduled to be deployed in the early 1970s.

The entire Army surface-to-surface missile program, which originally contemplated the retirement of all of the Sergeant and most of the Honest John battalions, will be thoroughly reviewed in context with the FY 1972–76 program.

With regard to surface-to-air missiles, we are planning essentially the same Army Hercules program presented last year. However, we intend to reduce the number of active Army Hawk batteries. A large part of the decrease should be offset by the conversion of several towed battalions to self-propelled and the eventual deployment of Improved Hawk.

The buildup of Chaparral/Vulcan batteries is proceeding somewhat more slowly than contemplated last year, nevertheless, we should have a substantial number of these batteries at the end of the current fiscal year and more by the end of FY 1971.

With regard to SAM–D, the potential replacement for both the Hercules and Hawk, we have decided to continue the program in advanced development for another year. About $89 million has been included in the FY 1971 budget for this purpose.

Marine Corps Division Forces

In FY 1970, we are deactivating the 5th Marine Division which was reactivated during the early stages of the Vietnam buildup. The 3rd Marine Division was redeployed from Vietnam last November with two brigades going to Okinawa, and one brigade to CONUS. . . .

Except for the helicopter units, the changes in the Marine Corps forces in FY 1970 are related essentially to the reduction from four to three active divisions. Last year the Marine Corps planned to have three medium CH–46 squadrons, two heavy CH–53 squadrons and one light observation squadron in each of the air wings (three active and one reserve), plus four training squadrons, for a total of 28.

During the past year, AH–1G/J Cobra gunship helicopters have taken over a mission formerly performed by armed UH–1 helicopters. In addition, each wing will be provided one light transport (UH–1E/N) squadron. Three of these squadrons are already in the force, and one more will be provided for the Marine Corps reserve wing.

Procurement

There are a few items which I would like to highlight at this point.

The first concerns the Army tank program. As this Committee is well aware, the Army has experienced considerable difficulties in advancing their tank technology. The standard M60 tank (the A–1 model with a 105mm gun) is a well proven and successful weapon system. It now constitutes the backbone of the Army's armored forces, particularly in US.-NATO-oriented forces.

The Army's attempt to improve that vehicle by incorporating a new Shillelagh missile/152mm gun system, however, has not been successful. The 300 M60 A1E2 tanks with the new missile/gun turrets, which were purchased in FY 1967, are still not usable in their present configuration. Neither are the 243 separate turrets which were to be retrofitted on standard M60 tank hulls. The Army now believes that the turret stabilization problem can be corrected relatively soon, but that the reliability problem will take longer to solve. Inasmuch as the increased effectiveness which could be provided by these tanks is needed, we believe an additional effort to see what would be required to correct the deficiencies is warranted. Accordingly, $3.8 million of FY 1970 funds has been allocated to this effort and another $12.1 million is included in the FY 1971 budget for this purpose.

The Army's efforts to develop an entirely new Main Battle Tank (MBT–70) jointly with the Federal Republic of Germany have also run into difficulties, and these were extensively discussed with the Congress last year. . . . The technical problems still to be resolved are not considered insurmountable. However, the average unit cost for a tank with all the features contemplated in the MBT–70 would be at least $850,000 for the quantity needed to equip the Europe-positioned forces. We can buy a new M60A1 today for under $300,000 per tank, and the greater combat effectiveness promised by the MBT–70 simply does not justify so great a differential in the cost.

Several studies over the past few months have indicated that it should be possible to produce a tank with the more important features of the MBT–70 at a cost of under $600,000 per tank, for the same quantity. Such a new tank would still be markedly superior to any the Soviets are likely to field through the 1980s, since it would include spaced armor, improved mobility and agility, both missile and gun armament, a load and shoot on-the-move capability and an ability to fight at night.

The tank now proposed would make maximum use of components already developed, such as the hydro-pneumatic suspension system, and emphasize reliability and durability, as well as the need to hold costs down. The next six months will be devoted primarily to further intensive cost tradeoff studies to determine the preferred configuration of the tank, after which work will begin on a limited number of prototypes (6 to 12). This approach should provide the basis for a firm, fixed price production contract. We are requested $77 million for research, development, test and evaluation (RDT&E) and advanced production engineering in FY 1971.

There is another aspect to the MBT–70 problem as well, that has to do with the joint development program with Germany. We now feel that it would be best for both countries to pursue work on a new tank separately. Accordingly, we began negotiations in January which should enable us to reach a memorandum of understanding with the Germans on the termination of the joint program. Although the joint program will be formally ended, we expect that both countries will continue to provide support to each other's program.

Because any new main battle tank developed over the next few years will not be available for equipping the forces until the mid-1970s, we believe the M60 production line should be continued at the minimum sustaining rate at least through the FY 1971 funding period. Accordingly, we are including funds in the FY 1971 budget for the procurement of 360 vehicles, including 300 M60A1 tanks, 30 armored vehicle-launched bridges and 30 combat engineer vehicles. The tanks will be used to upgrade our existing inventory.

The final procurement of the Sheridan armored reconnaissance vehicles will be made in FY 1970. . . . We are requesting $4.4 million in FY 1971 to complete contractor support of the FY 1970 procurement and modification program.

The Shillelagh anti-tank missile program will also be bought out in FY 1970, pending the outcome of the test of this missile in the infantry ground and helicopter modes which the Congress has directed. I would like to point out, however, that the Shillelagh missiles we are buying are designed for closed breech launch from an armored vehicle such as the Sheridan or the M60A1E2, where recoil, muzzle blast and weight are inherently secondary considerations. The TOW heavy anti-tank missile, in contrast, is specifically designed for use on the ground by infantry troops and in helicopters. Whether a Shillelagh launcher suitable for use in these modes can be successfully designed has yet to be demonstrated. Moreover, we do not know how long it would take to develop such a launcher.

Given these uncertainties, we are recommending continued procurement of TOW in FY 1971. About 5,500 were bought in FY 1969, principally for service testing and training. More will be bought in FY 1970, and we are requesting funds in the FY 1971 budget for additional procurement.

The Dragon medium anti-tank missile will be continued in development for another year, and funds are included in the FY 1971 budget for this purpose.

Last year, because of difficulties encountered in the test program, we cancelled the procurement of the new AH–56 Cheyenne compound helicopter, and instead purchased 170 AH–1 Cobras. Since no satisfactory solution has yet been found to the Cheyenne problems, we propose to continue procurement of AH–1s to meet the Army's armed helicopter requirements, and funds for 70 more of these aircraft are included in our FY 1971 request. We have also included $17.6 million in the Army's RDT&E account to continue the development and test of the Cheyenne.

We also propose to buy in FY 1971 another 600 OH–58 light observation helicopters to continue the modernization of Army observation units, as well as 120 UH–1s and 24 CH–47s for attrition replacements.

With regard to Marine Corps helicopters, we have made several adjustments to the FY 1970 procurement program in the last year, mainly to reflect actual combat attrition experience in Vietnam. Last April we eliminated the planned procurement of 24 CH–53D heavy transport helicopters and reduced the CH–46 medium transport helicopter buy from 72 to 60. We have now reduced the FY 1970 CH–46 buy from 60 to 12, all of which will be used to replace combat losses.

Last April we proposed the purchase of 22 UH–1Ns for the Marine Corps in FY 1970 in order to replace combat losses and maintain the inventory. These aircraft were to be bought in addition to the 40 UH–1Ns provided in the FY 1970 budget for the Navy. We have now determined that the Navy requires only 30 of these helicopters through FY 1971 for combat support and command and control. Accordingly, we propose to apply the other 10 to the Marine Corps requirement, leaving 15 more to be procured in FY 1971. These 47 UH–1Ns should be enough to replace combat losses, and form the one additional light transport squadron I discussed earlier in connection with the Marine Corps helicopter forces.

Tactical Air Forces

We expect to have a force of about 8,300 tactical aircraft at the end of FY 1971, compared with 8,500 at the end of FY 1970 and 8,700 at the end of FY 1969. Even so, we will have about 800 more tactical aircraft than we had at the end of FY 1965, before large U.S. forces were deployed to Southeast Asia. In addition, we will have many newer and more capable aircraft.

Active Fighter/Attack Forces

We now plan to maintain about 4,600 fighter/attack aircraft in the active forces at end FY 1971, compared with about 4,900 at end FY 1970 and about 5,000 at end FY 1969.

Air Force. The Air Force tactical air structure will be continued with little change through FY 1971, and will include 23 wings of F–4s, F–111s, A–7s, F–100s, and F–105s.

Included in the FY 1971 budget is a total of $484 million for F–111 procurement—$283 million for additional F–111F aircraft and $200.5 million for payment of prior year over target costs. In addition, we are requesting $16.5 million for the modification of 10 F–111 research and development aircraft to a tactical configuration.

The first wing of A–7s will be operational in FY 1971, as planned a year ago. A total of 202 A–7s has been provided through FY 1970, and funds are requested in the FY 1971 budget for the procurement of 88 more.

As explained last year, the buildup of F–4 squadrons will be completed in FY 1970. No procurement was planned for FY 1970. However, 24 F–4s need to be procured in FY 1971 to replace combat losses and sustain the approved force level.

A number of other adjustments were made in the fighter/attack forces last year in connection with our efforts to reduce FY 1970 expenditures. The FY 1970 buy of A–37Bs was reduced from 96 to 36, and we do not plan to procure any more in FY 1971. The A–37s now in the active forces will be transferred to the Reserve Forces, beginning in FY 1970. Six, instead of four, squadrons of F–102s will have been dropped from the active force by the end of FY 1971; the two remaining squadrons will be retained through the end of FY 1971; one in Iceland and one in the Pacific.

Finally, an F–100 wing will be phased out of the active forces in FY 1971.

The development of the F–15, the Air Force's new air superiority fighter, is proceeding on schedule. We still plan to optimize this aircraft for air-to-air combat, and we believe its performance will be superior to any present or postulated Soviet fighters in both close-in visual and long-range missile encounters.

Several new developments now underway will be used in the F–15, including the new joint Navy/Air Force-funded advanced technology engine which will provide a major increase in thrust relative to weight, the new short-range high maneuverability missile, and the new 25mm gun which uses caseless ammunition. Equipped with the new missile and gun, as well as the advanced Sparrow and good sensors, the F–15 with its twin high-thrust engines should prove to be a major advance in fighter aircraft.

The Air Force's present program calls for the first flight of a research and development aircraft in calendar 1972, and an initial operational capability in the mid-1970s. A total of 20 RDT&E aircraft is now contemplated, however, the last 7 will not be instrumented and, thus, can be placed in the operational inventory after the test program is completed.

Although we feel it is not economically feasible to develop the entire aircraft on a competitive basis, as has been suggested by some people, we are planning to conduct competitive development of high-risk subsystems, such as the new gun, missile, engines, and radar. The F–15 engineering development contract, with production options, was awarded in late December 1969, and a total of $370 million has been included in the FY 1971 budget for this program.

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We also plan to go ahead in FY 1971 with the development of a new close air support aircraft, the A–X. The Congress provided $2 million for this program last year to begin contract definition. However, we now believe it may be more desirable to go directly to prototype development on a competitive basis. The cost of a sole source contract definition and engineering development program for 10 test aircraft (7 of which could later be modified to a tactical configuration) is estimated at about $155 million. We believe a two-contractor competitive program involving the construction of two prototype aircraft each, and no further development could, under current estimates, be done for considerably less.

The competitive approach would provide test aircraft about one year earlier, and would allow a decision on whether to procure the aircraft, as well as the selection of a producer, to be based upon competitive testing of actual hardware rather than paper designs. If we then decided to buy the aircraft, the winning contractor would complete the engineering development and build the necessary 10 research and development aircraft. A competitive research, development, test and evaluation program will, of course, involve greater costs than a sole source program.

What we are seeking is an aircraft more capable than the A–37 or OV–10 but less costly than the A–7 or F–4. An essential part of the prototype approach is to allow the contractor a wide latitude in his choice of design, engines, etc., in meeting this general objective. A total of $27.9 million has been included in the FY 1971 budget to begin prototype development with two contractors.

One other program, which is of interest to the Committee, is the international fighter. During the past year we have identified a definite need to provide an increase in the air-to-air capability of the South Vietnamese Air Force against the North Vietnamese threat. In addition, we believe that making an appropriate aircraft available to South Korea, Taiwan, Thailand and other allies could provide a means for these nations to shoulder more of the burden of their own defense.

We also plan to go ahead with the development of the A–X.

Although we have not yet determined the most appropriate aircraft for this mission, we are currently studying the possibility of using an improved version of the F–5, a stripped down version of the F–4, or some other aircraft. A request for proposals will soon be issued, and the final selection will be made on a competitive basis. The appropriate Congressional Committees will be kept advised. Some $28 million from the Air Force resources was made available last year and will be used for this program in FY 1970; another $30 million is requested in FY 1971.

Navy and Marine Corps. Last year it was planned to operate 80 active squadrons (1,680 aircraft) and 16 attack carriers (CVAs), including one antisubmarine warfare carrier (CVS) serving as an attack carrier through the end of the Vietnam war, and then drop to 70 squadrons (1,350 aircraft) and 15 attack carriers. We now plan to operate 72 squadrons (1,430 aircraft) and 16 attack carriers (including the CVS) through the end of the Vietnam war. With the phase down in Southeast Asia deployments already initiated, Marine Corps tactical aviation can augment Navy air wings as necessary to compensate for the reduced number of Navy squadrons in the force. As you know, the post-Vietnam requirement for attack carriers is under study and will be addressed in connection with our submission on the FY 1972 budget.

The number of fighter squadrons will remain unchanged. No further F–4 procurement will be required in FY 1971.

The increase in authorized aircraft inventory for A–6s for FY 1971 involves principally a bookkeeping change rather than an increase in the number of squadrons. Certain special purpose A–6s employed in Southeast Asia had not heretofore been included in the authorized active inventory or in the squadron unit equipment (U.E.). The FY 1971 budget includes funds for the procurement of 12 more A–6Es for attrition. The first 12 of this model, with improved avionics and more powerful engines, were procured in FY 1970.

The buildup of A–7 squadrons should be completed during FY 1971. However, 30 A–7Es will be procured in that year for advanced attrition, before production of this model ceases. At the same time, we plan to reduce the unit equipment per squadron because of the increased capability which the A–7s should provide over the A–4s that they are replacing.

With the increase in A–7 squadrons in FY 1971, the number of A–4 squadrons will be reduced.

The multi-mission F–14 fighter development program, along with the Phoenix missile, is proceeding on schedule. An F–14 fixed price incentive engineering development contract, with options for the purchase of production aircraft, was signed on Feb. 3, 1969. A total of 12 test aircraft has been authorized under the research, development, test and evaluation account through FY 1970, and we are requesting a total of $517 million in the FY 1971 budget for the procurement of 26 aircraft and the additional tooling required to increase the production rate in future years, plus $141 million for initial spares and long leadtime items for aircraft to be bought in FY 1972. However, no production rate increase will be approved until we have had a chance to evaluate the plane in flight. Another $92 million is requested FY 1971 to procure 72 Phoenix missiles for the test program.

The principal change in the Marine Corps active fighter/attack forces in FY 1971 is the reduction in F–4 squadrons. This reduction relates in part to the introduction of the AV–6B Harrier, and in part to the Marine Corps' desire to increase the helicopter forces, described earlier, by using funds that would have supported the F–4 squadron.

It was decided last year in the amendments to the FY 1970 budget, to procure an initial quantity of 12 Harriers for the Marine Corps, instead of another 17 F–4s. In order to provide enough aircraft for one complete squadron and a training nucleus, we propose to buy 18 more Harriers in FY 1971 and are requesting $96.2 million for that purpose, plus $22.1 million for initial spares and advance procurement for aircraft to be purchased in FY 1972. Now that we have decided to move ahead with this program, and in view of the Congressional desire to produce the aircraft in the United States, we have included $24.2 million (within the $96.2 million) to provide for the cost of partially assembling the 18 aircraft in this country under a licensing arrangement. This $24 million would not be required if we were to continue procurement directly from the United Kingdom.

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Although the first squadron will not be fully equipped until the early 1970s, we should receive the first few Harriers for service test in FY 1971. This V/STOL close support jet will provide the capability to operate from amphibious ships or forward sites ashore, close to the ground troops.

Reserve Fighter/Attack Forces

In addition to the fighter/attack aircraft in the active force, we now have about 950 in the reserve forces.

Air National Guard. A year ago a FY 1970 force of 24 fighter squadrons, each with 24 unit equipment, was planned for the Air National Guard, plus one combat crew training squadron, for a total of 25 squadrons. However, we later decided to retain one more F–84 fighter squadron instead of converting it to a tactical air control squadron. Accordingly, we will have 25 fighter/attack squadrons, plus one combat crew training squadron, at the end of both FY 1970 and FY 1971.

As I noted before, the first squadron of A–37s will be transferred to the Guard during FY 1970, and during FY 1971 more A–37 squadrons will be formed. In addition, a few Air National Guard F–84 squadrons will convert to F–100 squadrons using aircraft phased out of the active forces in FY 1971, and we will also fill out the equipping of the F–100 units which do not now have their full unit equipment.

Navy and Marine Corps Reserve. The Navy and Marine Corps Reserve are now organized into 20 squadrons with about 380 aircraft. During FY 1970, two of the older A–4 squadrons are being eliminated and one more F–8 squadron is being formed, leaving a total of 19 squadrons. In addition, the Navy squadrons are being organized into two reserve attack carrier air wings, which when fully equipped, will eventually be capable of deploying aboard Hancock CVAs. The 4th Marine Air Wing composition is being modified to reflect four F–8 and five A–4 squadrons instead of the current five F–8 and four A–4 squadrons.

Reconnaissance

The Air Force reconnaissance forces remain essentially the same as planned last year. However, during FY 1971 one squadron of F–101s being reconfigured as RF–101s (financed in the FY 1969 program) will be placed into the Air National Guard rather than the active forces. The RF–101 squadron will replace one RF–84 squadron, leaving the Guard with 12 squadrons—4 RF–101, 6 RF–84, and 2 RB–57.

Because of lower than expected attrition of the RF–4s we deferred the planned FY 1970 procurement to FY 1971, in which year we proposed to buy 12.

Except for the elimination of the final procurement of the 10 RA–5Cs from the FY 1970 program, the Navy reconnaissance program is essentially the same as it was last year.

Other Aircraft

In addition to the fighter/attack and reconnaissance type aircraft, about 1,900 "other" aircraft are included in the tactical air forces—special operations, electronic and night warfare, tactical air control, airborne early warning, etc.

Last year, in our attempt to reduce FY 1970 expenditures, we reduced the special operations forces by about 30 percent. However, as explained last November, this adjustment included C–123s that were transferred to the airlift forces. No major changes are planned for this force during FY 1971.

In the electronic warfare area, the principal procurement item continues to be the EA–6B. Last April, we rescheduled production of the EA–6B, reducing the FY 1970 procurement from

19 to 12 and increasing the planned FY 1971 buy from 23 to 24. In December, the Navy successfully completed testing to determine the effectiveness of the system in a simulated operational environment. We now plan to buy eight EA-6Bs in FY 1971, and stretch out the period of time required to equip the total force.

The total A–6 program (including A–6Es, EA–6Bs, and new KA–6Ds as well as KA–6D modifications) planned last year for FY 1971 would have increased the production rate. Since the Congressional action on the KA–6D tanker program and the adjustments made in the EA–6B program last year resulted in a substantially reduced production rate for all A–6 models in FY 1970, we believe it would be advisable to maintain that rate (including KA–6D modifications) through the FY 1971 procurement period. A total of $148.7 million has been included in the FY 1971 budget for the eight new EA–6Bs, plus $43.5 million for initial spares and advance procurement, and $17.6 million for the modification of 20 more A–6As to KA–6D tankers. (Sixteen tanker conversions were funded in FY 1970.) Thus the A–6 program in FY 1971 will entail the production of 12 A–6Es and 8 EA–6Bs, plus the conversion of 20 A–6As to KA–6Ds.

In the tactical air control area, the large increase since FY 1965 in the Air Force reflects a change in philosophy in tactical air-to-ground weapon delivery. More emphasis has been placed on the need for tactical air control of air-to-ground attacks.

Navy Ship Forces

Attack Carrier Forces

As noted in the discussion of the tactical air forces, we plan to maintain 16 attack carriers in the forces through the end of the Vietnam war. This force will consist of the nuclear-powered Enterprise, eight Forrestal class, three Midway-class, three Hancock-class carriers, and one antisubmarine warfare (ASW) carrier (Shangri-La) operating in an attack role.

The modernization of the Midway will be completed this year, after more than four years in the shipyard and at a cost of $202 million (plus $5 million for outfitting and post-delivery charges). . . .

The Midway was recommissioned in January 1970, and is scheduled to be delivered to the fleet in September 1970. The Ticonderoga, which the Midway will replace, has been transferred to the ASW carrier (CVS) force.

Two Nimitz-class CVANs have been authorized and funded. These two ships (CVAN-68 and CVAN-69) will be built on the same design plans and under the same multi-year contract, which may also contain an option for a third ship.

Some $152 million has been included in the FY 1971 budget for advance procurement of long leadtime nuclear components and propulsion equipment for the third Nimitz-class carrier, CVAN-70. In addition, $21 million is requested in FY 1971 to complete funding of a spare set of nuclear components for all Nimitz-class ships. . . .

ASW Forces

The ASW forces include ASW carriers and their aircraft, attack submarines, escort ships, land-based patrol aircraft, and the sensors and weapons utilized by the ships and aircraft.

ASW Carrier Forces. The present ASW carrier (CVS) force, as has been pointed out in past years, is costly to operate in relation to its current overall effectiveness. It does, however, possess certain unique ASW capabilities and potential. But, if we desire to have a CVS force that can be effective against the qualitatively improving threat through the 1970s, its capability to detect, locate and destroy hostile submarines must be considerably improved. It is for this reason that we propose to go ahead with the development of a new carrier-based ASW aircraft, the S–3A (formerly VSX).

Although ship-based ASW aircraft are more expensive to operate than land-based ASW aircraft, they do provide the capability to extend persistent and concentrated ASW air operations into areas well beyond the range of the latter, *e.g.*, in the South Atlantic, South Pacific and Indian Oceans. Moreover, a CVS force provides a hedge against the possibility that some existing overseas stations for land-based ASW aircraft might not be available in the future.

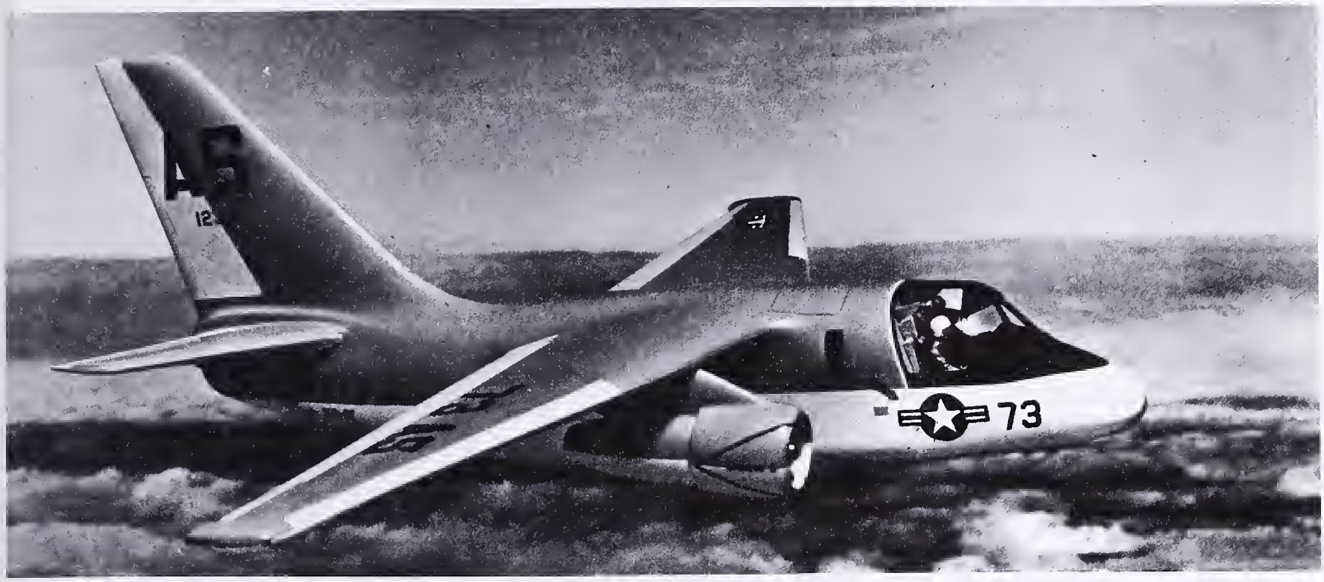
The CVS force planned a year ago included six ships and five air groups. As a result of the urgent need to reduce expenditures, we decided last summer to cut the force to four ships and four air groups by the end of FY 1970 and maintain that level through FY 1971. Beyond that point our requirements are under study. However, we are retaining the option to adjust the CVS force to whatever level may be required in the future.

The FY 1971 budget includes $208 million in research, development, test and evaluation funds to continue the S–3A development program comprising six research and development aircraft. In addition, we are requesting $79 million of procurement funds for two more test aircraft (which will be used initially in the flight test program before being reconfigured for fleet use) and the related tooling and support equipment; plus $22.7 million for long leadtime items for aircraft to be procured in FY 1971.

Patrol Aircraft. Fiscal constraints in the past year have also necessitated reductions in the land-based ASW aircraft forces. As a result the Navy has decided to phase out all of the old P–2 patrol aircraft in FY 1970, instead of over the next three years. To partially offset this reduction in FY 1970 one more P–3 squadron will be formed a year earlier than previously planned.

We tentatively plan to maintain the P–3 force at the end FY 1970 level instead of building it up over the next few years. We are less certain as to how many of the squadrons should be equipped with the new P–3C, which carries the more capable A–NEW avionics system. Several P–3C squadrons have already been funded, and our FY 1971 request provides for 12 more aircraft. We have included in the FY 1971 budget advance procurement funds for additional aircraft, in order to retain the option for building up the P–3C force beyond the presently planned level.

Although we are reducing the number of patrol aircraft squadrons be-



The budget includes $208 million to continue the S–3A development.

cause of fiscal limitations, the introduction of new sensors and, in later years, the new S–3A will result in a large increase in the quality of our total air ASW capability. Although the P–3A/B will not have the A–NEW computerized tactical plot and navigation system, it will have the same sensors and weapons as the P–3C (*e.g.*, the DIFAR and CASS sonobuoy systems and the Mark 46 torpedo) once current retrofit programs are completed.

Attack Submarines. Another critical element of our ASW forces is the attack submarine. At the end of FY 1969 we had 111 general purpose submarines—39 SSN, 62 SS, and 10 auxiliary submarines (AGSS) which were used principally for training. In view of the need to reduce FY 1970 expenditures, the Navy decided last year to phase out all of the AGSSs and add their training functions to the SS force. This change, together with the delivery of seven new SSNs, the transfer of two older SSNs to another mission, and the phase out of three SSs, will result in a force of 103 general purpose submarines, 44 SSN and 59 SS, at end FY 1970. In FY 1971, the number of SSNs should increase to 52 as new ships are delivered to the Fleet; the number of SSs will be reduced to 53 to maintain a total of 105.

Including the three submarines funded in FY 1970, a total of 71 SSNs has thus far been authorized. Of these, two have been lost (Thresher and Scorpion), one has been retired (Triton), two have been converted to other missions (Seawolf and Halibut) and 52 will be operating with the Fleet at end FY 1971, leaving 14 to be delivered in subsequent years. However, 6 of the 52 SSNs are older types which are not considered capable of meeting all operational requirements. Therefore, when the 14 new submarines are delivered to the Fleet, we will still have a total of only 60 fully-capable SSNs.

How large a fully-capable SSN force will be required during the 1970s, has been a matter of controversy for a number of years. . . .

Although we have not yet reached a firm decision on how many first-line SSNs will ultimately be required, we are convinced that at least three or four new "high-speed" 688-class SSNs should be authorized in each of the next two fiscal years, 1971 and 1972.

Last year, in addition to the funds required for the three 688-class SSNs to be started in FY 1970, the Congress provided $110 million for the advance procurement of long leadtime items for five more to be started in FY 1971. We now propose to start three in FY 1971 and $67.5 million of the FY 1970 advance procurement funds will be applied to these three submarines. The balance of $42.5 million will be applied to the FY 1972 program. Accordingly, $430.5 million will be required in FY 1971 to complete the funding of the three SSNs to be started in that year, and $45 million (in addition to the $42.5 million provided in FY 1970) is requested for advance procurement for the submarines to be started in FY 1972.

Preliminary design of the new 688-class SSN was performed by Newport News Shipbuilding and Dry Dock Co. The Navy plans to contract for the detailed design and working plans, as well as the construction of the lead ship, with Newport News on a sole source basis early in 1970. The follow-on ships will be built under a multi-year contract now scheduled to be awarded on a competitive basis in the summer of 1970.

Escort Ships. Last year, in order to reduce operating costs, the Navy decided to phase out 36 more of the older ASW escort ships than had previously been planned. This, plus a delay in delivery of some new destroyer escorts (DE), will reduce the end FY 1970 force to 166, compared with 208 planned a year ago.

In FY 1971, 13 old destroyers (DD) and 2 radar picket escorts (DEP) will be phased out as 14 new DEs are delivered to the Fleet. In addition, the last four DD–931 class ships currently undergoing ASW modernization should return to the Fleet in FY 1971, making a total of 169 ASW escorts by the end of the fiscal year.

The level of guided missile cruiser

and destroyer types in FY 1970 will be the same as that planned a year ago—70 active ships plus 4 in modernization. We plan to maintain about this same force level through FY 1971.

The escort shipbuilding program has gone through a number of major changes in recent years, principally as a result of rapidly escalating cost estimates. The revised program proposed by the outgoing Administration in January 1969 provided for the construction of 30 DXs, 28 DXGs and 4 DXGNs, although construction of DXGs was not proposed in the budget. It has been decided to go forward at this time only with the DX (now designated DD–963 class) and DXGN (now designated a nuclear-powered guided missile frigate, DLGN–38) programs.

The Congress last year provided $317.7 million to complete the funding for the first five DD–963s ($25 million for advanced procurement had been provided previously), plus $17.6 million for advance procurement for ships to be started in FY 1971. It now appears that the cost of the DD–963 will be considerably higher than estimated even last year—about $480 million for the first five, compared with about $343 million. In order to keep this program fully funded we have now decided to start with three ships in FY 1970 at an estimated cost of $308.6 million, and hold the FY 1971 buy to six ships at an estimated cost of $506.8 million, instead of the nine planned last year. Of the $360.3 million thus far provided by the Congress for this program, $308.6 million will be applied to fully fund the first three ships and $51.7 million will be used for advance procurement for ships to be started in FY 1971 and FY 1972. Another $459.5 million is included in the FY 1971 budget to complete the funding of the six FY 1971 ships.

We believe this slower construction schedule is more realistic in view of the present status of the program. The competitive contract definition effort on this ship has been essentially completed and the Navy is in the final stages of contract negotiation. A multi-year, multi-ship contract, is expected to be awarded to one of the two finalists in the competition, Bath Iron Works or Litton, this spring. Either one of these contractors would have to undertake a substantial expansion of his work force, and this could best be accomplished gradually.

The DLGN–38 program has also experienced an increase in estimated cost over the past year. The estimate for the first ship is still the same, $222 million, but the next three ships are now expected to cost an average of about $208 million, compared with the $180–$190 million estimated last year. Thus far, the Congress has appropriated $325.9 million for this program. Of this amount, $222 million is being applied to fully fund the first ship and $31 million will be applied for advance procurement for the second ship to be started in FY 1971, leaving $72.9 million available for advance procurement for later ships. We have included in our FY 1971 budget request, $182.8 million to complete the funding of the second ship, which is now estimated to cost $213.8 million. We have also included in our FY 1971 budget request $38.5 million, which together with the $72.9 million available from prior years, will provide a total of $111.4 million for advanced procurement for ships to be started subsequent to FY 1971.

The Navy has completed an "in-house" contract definition effort on the DLGN–38 and now plans to award a contract for the lead ship to Newport News Shipbuilding and Dry Dock Co. on a sole source basis early in 1970. Two other firms could acquire the capability to build this type of ship, and one or both may wish to bid on the follow-on ships, in which case a competitive award would be possible.

With regard to the missile ship modernization program, you may recall that two of the three DLG conversions included in the original FY 1970 budget were cancelled in our April [budget] amendments to provide some of the funds needed to finance ship-building cost growth during FY 1970. We now have included a total of $150 million in the FY 1971 budget for this program—$116 million for conversion of four ships in FY 1971 (plus $34 million of available prior year funds) and $34 million for advance procurement for the four ships scheduled for FY 1972–73.

Last year $68 million was included in the FY 1970 budget to initiate engineering development of a new ship air defense system now designated Aegis (formerly the Advanced Surface Missile System). The Congress, in the belief that a reorientation of the program was in order, cut this amount to $35 million.

We have now reviewed the requirement for this particular system. There is no question but that the existing ship surface-to-air systems have about reached the limits of their growth potential and that a new, more capable system will be needed for the late 1970s. We agree, however, that this new system should be developed on the most austere basis consistent with the performance of its intended mission. More specifically, we believe the new system should have an improved radar. We do not believe a new missile is required at this time. The existing Standard missile should provide an adequate capability, as well as reduce the development risk and shorten the time to initial operating capability by about two years.

Engineering development has been initiated in FY 1970 with the $35 million provided by the Congress. Another $75 million is included in our FY 1971 budget to continue this effort.

Sonobuoys. Funds are requested in the FY 1971 budget for the procurement of additional sonobuoys, including two advanced types, DIFAR and CASS, and for the continuation of work on more advanced sensors.

Torpedoes. Another very important element of our ASW capability is the availability of modern, fast torpedoes for our ASW aircraft, escorts, and SSNs.

There will be no procurement of the Mark 46, our latest surface ship/air-launched ASW torpedo, in FY 1971. We are, however, requesting funds in FY 1971 for the new Mark 48 submarine-launched torpedo, the development of which has been underway since 1964. There are three versions of this torpedo, the Mark 48–0, which is primarily an ASW weapon; the dual purpose Mark 48–1, which is designed for use against both submarines and surface ships; and the Mark 48–2, which is a dual purpose version of the Mark 48–0.

There is an urgent requirement for both of these capabilities, particularly the ASW capability. . . .

Accordingly, the Navy plans to complete development, test, and evaluation of all three versions of the Mark 48 torpedo; and then to choose one of the dual purpose versions for the procurement in quantity for the operational inventory. In the interim, the Navy proposes to procure a limited number of Mark 48–0 and Mark 48–1 torpedoes to begin to meet urgent ASW requirements and to keep production lines in-being until evaluation of the Mods 1 and 2 has been completed and the choice made between them, which the Navy now expects will be in mid-1971.

A total of $110.6 million has been included in the FY 1971 budget for procurement of Mark 48–0 and Mark 48–1 torpedoes, and for kits to convert some Mark 48–0s to Mark 48–2s.

Amphibious Assault, Fire Support and Mine Countermeasure Forces

The revised amphibious assault ship force proposed by the previous Administration a year ago would have provided a 20-knot lift for 1-2/3 Marine Expeditionary Forces (MEF), one in the Pacific and two-thirds in the Atlantic. A sufficient number of older, slower ships would have been retained until all the new ships needed to provide this amount of lift had been delivered.

Because of the need to reduce expenditures, the Navy subsequently decided to reduce amphibious lift in FY 1970 to four Marine Expeditionary Brigades (MEBs), which is equivalent to 1-1/3 MEFs—two MEBs in the Pacific and two MEBs in the Atlantic. We now plan to maintain this same lift capability through FY 1971.

Amphibious Assault Ships. Pending a final decision on the longer range force objective, we propose to go ahead in FY 1971 only with the two amphibious assault ships (LHAs) planned last year, plus advance procurement for two more that we may want to start in FY 1972. We are not requesting funds at this time for the seven landing ships tank (LSTs) planned last year for FY 1971.

Last year, the preceding Administration had planned to construct nine multi-purpose amphibious assault ships—one in FY 1969 and two in each of the succeeding four years. On May 1, 1969, the Navy signed a multi-year contract with Ingalls Shipbuilding Division of Litton Systems, with options for a total of nine ships.

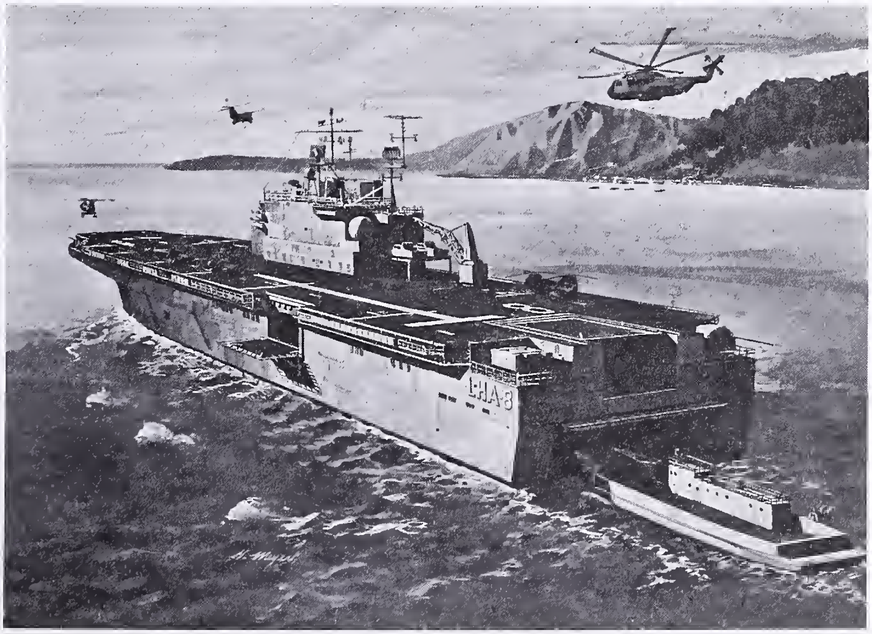
In the last year our cost estimates for this program have been revised in two respects. First, the estimate for construction of nine ships has been raised, from about $1,310 million to about $1,370 million. Second, certain non-recurring costs that were previously charged against the lead ship have, under the terms of the contract, been spread over all nine ships. Thus, the FY 1969 ship is now estimated at $168 million, as compared with $185 million previously estimated, while the two FY 1970 ships are now estimated at a total cost of $312 million, compared with $288 million in the FY 1970 budget. The increase of $7 million in the cost of the first three ships will be provided from presently available funds.

We have included a total $313.5 million in the FY 1971 budget for the LHA—$286 million to complete the funding of two ships and $27.5 million for advance procurement for two more.

Fire Support Ships. The fire support force now includes two 8-inch gun cruisers (CAs), and four rocket-launching ships (LFRs). Two older gun cruisers and a reactivated battleship were retired in FY 1970 as a part of our FY 1970 expenditure reduction effort. The LFRs will commence inactiviation in FY 1970 and complete in FY 1971. The two 8-inch gun cruisers will be retained through FY 1971.

The plan proposed a year ago for the modernization of these forces has also been revised. The funds requested in FY 1970 for contract definition of a new type of landing force support ship (LFS), designed to provide major-caliber gunfire support and neutralization fire for the amphibious assault forces, were denied by the Congress. Accordingly, we are now examining alternative ways to meet this requirement.

Mine Countermeasure Forces. We propose to continue in FY 1971 the program begun in FY 1968 to modernize the 62 existing ocean minesweepers (MSOs). The Navy, however, is encountering some problems with this program, due principally to inadequate design. The estimated cost of these conversions has risen from $4.8 million to $5.2 million per ship, and the FY 1968 ships are now expected to be in the shipyard almost twice as long as originally planned. Furthermore, the Navy has only recently contracted for the FY 1969 ships and does not expect to award a contract for the FY 1970 ships until July 1970.



Pending a final decision, we plan to go ahead with two LHAs.

We have, therefore, decided to reduce the FY 1970 and FY 1971 programs from 10 to 5 ships in each year. The FY 1971 budget includes $22.4 million ($26.0 million less $3.6 million of FY 1969 advance procurement funds) for the conversion of five ships.

Inasmuch as significant advances have been made over the past few years in the utilization of helicopters for mine countermeasures, we have concluded that the new MSOs previously programmed for construction in FY 1971–1973 are no longer needed. We have also decided to drop the new mine countermeasures support ship (MCS) previously programmed for FY 1971. One of the two existing MCSs is being phased out in FY 1970.

Logistic and Support Ships

We now expect to have a total of 210 logistic, support and small patrol vessels at the end of FY 1970, compared with 232 at the end of FY 1969. Some 28 of the oldest and least capable ships are being phased out earlier than previously planned as part of our expenditure reduction effort. During FY 1971, the number is expected to remain at 210 with several new ships now under construction being delivered to the Fleet and some older ships being phased out.

Fiscal constraints, however, have not permitted inclusion of any funds for logistic and support ship construction in FY 1971 budget. Moreover, we have had to cut back prior year construction programs in order to provide some of the funds required to offset claims and cost growth in the shipbuilding program generally. As a result, no new logistic and support ships have been funded since FY 1968. This is one of the programs to which we will have to give special attention in FY 1972, since many of these ships were built in World War II and will soon have to be retired.

Cost Growth in Shipbuilding Program

There is another matter I would like to mention before I leave the shipbuilding program, and that is the problem of cost growth. You may recall that when I appeared before the Congressional Committees in the spring and summer of last year, I noted that we had already identified a deficiency of $600 to $700 million in the FY 1969 and prior year shipbuilding programs. I also noted that we would continue to review the cost growth problem and report to the Congress any additional deficits we might uncover.

Last November, in appearing before the Defense Subcommittee of the House Appropriations Committee, I pointed out that the deficiency in the shipbuilding program had grown to an estimated $800 to $850 million, and that there was a potential for as much as $350 million more. Now, after a detailed review of the entire program, we estimate the identifiable cost growth at $812 million, including the $35 million needed to restore the SSN Guitarro which accidentally sank at the shipyard. The specific amounts involved in the *potential* cost growth problem cannot, of course, be identified at this time, but we still believe it will amount to at least $350 million.

The FY 1970 budget amendments, transmitted to the Congress in April 1969, provided a total of about $350 million ($183 million in FY 1969 and $167 million in FY 1970) to cover the claims and cost growth then expected to mature before the end of FY 1970. The FY 1969 amount was obtained by cancelling three ships funded in FY 1968 and FY 1969, while the FY 1970 amount was to be derived by the cancellation of various ships, aircraft, and other Navy procurement programs proposed in the original FY 1970 budget.

Later in that year, the Navy took action to provide some of the additional funds needed to cover the more recently identified deficiencies which I reported to the Congress in November. The FY 1968–69 program for small craft was reduced by $10 million; a fast combat support ship (AOE) funded in FY 1968 was cancelled, thereby releasing about $84 million; and $10 million was obtained from FY 1967 and FY 1969 funds earmarked for planning and design. Another $48 million was made available in our FY 1971 budget review through a variety of adjustments in prior year shipbuilding programs. These items total $152 million, leaving approximately $310 million as the currently estimated deficiency.

About $100 million of this deficiency does not require funding in FY 1971. We hope that through a vigorous effort to close accounts on the more than 130 ships scheduled to complete construction or conversion in FY 1970–71, we can recover all or part of that amount. Accordingly, we are requesting only $210 million in the FY 1971 budget to finance identified cost growth in the shipbuilding program.

The Navy is well aware that major improvements in the management of the shipbuilding program are urgently needed. Last year, as a result of a comprehensive study of this problem, the Navy developed a new "Shipbuilding and Conversion Improvement Program," which was formally approved by the Chief of Naval Operations on January 15, 1970. The new management program encompasses more than 150 individual improvement tasks identified in Navy studies, inspection reports and other sources during the past year. Its principal features include:

- A documented inventory of improvement tasks.
- The identification of plans, milestones, and resources.
- The establishment of accountability for accomplishment.
- The provision for regular, high level reporting and appraisal.

Some positive improvements in policies, organization and procedures have already been accomplished. For example, the authority and responsibility of the project manager have been clarified and strengthened. He now reports directly to the Commander of the Naval Ships Systems Command, and he has been given full control over all of the funds allocated to his project. He is now also responsible for ship cost estimates and the control of changes. Cost estimating procedures have been revised to ensure that top management is aware of the risks reflected in the estimates.

Major efforts are now underway to improve the timeliness, completeness and soundness of ship specifications, and to bring the concurrency problem under better control. Considerable improvement is still required in these two critical areas, which have contributed so greatly to the cost growth problem in the shipbuilding program.

Mobility Forces

The mobility forces, active and reserve, are designed to provide, together with available commercial air and sealift resources, the lift needed to meet defense requirements in an emergency. The two major problems in this area at the present time are the C–5A program and the adequacy of the sealift immediately available for defense use.

C–5A Program

Last year, in light of the very substantial increases in estimated costs of the C–5A program, the FY 1970 buy was reduced from the 33 aircraft which had previously been planned to 23 aircraft. These 23 aircraft, together with the 58 already on order, will provide a four squadron force. Because of the heavy costs of the C–5A and our current assessment of airlift requirements, we stopped the buy at four squadrons. We believe that these four squadrons of C–5As, together with 14 squadrons of C–141s in the active forces and a Civil Reserve Air Fleet (CRAF) of about 450 four-engine jet aircraft will be sufficient to meet our basic needs for inter-theater airlift movement. . . .

The $623.6 million we have included in the FY 1971 budget relates to the 81 [C–5A] aircraft on order. Of this amount, $200 million has been provided to cover the contingencies which remain in the program. No further procurement beyond the 81 aircraft is proposed.

* * * * *

Sealift

Although substantial improvements have been made in our rapid deployment airlift capability, we still do not have the total strategic lift needed because of the lack of a rapid deployment sealift capability. Sealift has provided, and will continue to provide, the largest part of our capability for deploying and supporting General Purpose Forces. About 95 percent of the cargo moved to Vietnam has traveled by ship.

There are two major aspects to the sealift problem. One concerns the long-term adequacy of the U.S. Merchant Marine to meet defense and urgent civilian emergency shipping requirements in wartime. The other concerns the availability of sufficient suitable shipping during the crucial early weeks of a major war. The new national maritime program proposed by President Nixon is designed, in part, to solve the first aspect of that problem. I strongly endorse this program; it is particularly important to the mobility planning of the Defense Department, and further details are provided in an appendix. The second aspect of the problem, however, remains unresolved; and because it presents requirements that cannot be met by commercial shipping, this problem must be solved within the context of the DOD program.

The existing DOD-controlled intertheater sealift force is clearly inadequate, both quantitatively and qualitatively, to meet the early lift requirement. Accordingly, some augmentation and modernization of this fleet is essential.

In view of the past reluctance of the Congress to authorize the fast deployment logistic (FDL) ship program, we are looking for alternative solutions. One possibility would be to obtain the specialized rapid deployment sealift capability through the long-term charter of privately owned new multi-purpose cargo ships which would be built according to the design criteria specified by the Military Sea Transportation Service (MSTS).

The new MSTS charter ship would have a cargo capacity of about 46,000 measurement tons. It would be fully capable of quickly loading all military cargo in a ready-to-use condition and its peacetime operations would be continuously controlled so that it could quickly respond to an emergency. We estimate that the average construction cost of the first 10 ships would be about $25 million. Since these multi-purpose cargo ships would be acquired under long-term charter contracts, the construction cost would be amortized over the life of the contract. Based on a 10-year charter period, we estimate the annual cost per vessel would be $5 million—$3.3 million amortization and $1.7 million operating.

MSTS has already selected a final design from the competition conducted in 1968, and has statutory authority to request bids on the basis of an initial five-year charter, plus options for three five-year extensions. However, because of the present money market situation, the initial five-year charter is not proving sufficiently attractive to private investors. To obtain these vessels through a long-term charter program, it will now be necessary for Congress to authorize an initial charter period of 10 years.

Because these ships will be chartered, no government payments will be required until the ships have been delivered and are ready for use.

Appendix E

Mobility Forces

Mobility Forces include: the Military Airlift Command's (MAC) strategic airlift aircraft; the Air Force's tactical airlift aircraft assigned to the Tactical Air Command and unified commands; the transport and tactical airlift aircraft in the reserve components of all the Services; certain cargo and transport aircraft of the Navy and Marine Corps; specialized transportation forces such as aeromedical airlift units and aerial port squadrons; and the troopships, cargo ships, tankers and forward floating depot (FFD) ships operated by the Military Sea Transportation Service

(MSTS). These forces, together with available commercial air and sealift resources, are designed to provide the total lift needed to meet defense requirements in an emergency.

Airlift

The airlift forces currently planned through FY 1971 are shown in a classified table furnished separately to the Committee.

Active Air Force Airlift

On the basis of the current delivery schedule, three C–5A squadrons are expected to be operational by end FY 1971 and all four squadrons by end FY 1972. However, as a hedge against further slippage in the C–5A program, we plan to retain some of the current outsize airlift capability. Three C–133 squadrons will be retained through FY 1970 and two through FY 1971.

The C–141 force reached its programmed strength of 14 squadrons in FY 1968, and we plan to maintain the force at that level.

We propose to continue in FY 1971 the program to modernize the intra-theater aeromedical evacuation force. (Transoceanic aeromedical evacuation is accomplished with C–141 aircraft.) Modernization of the force used within the United States is being completed with 12 C–9s procured in FY 1969. Funds for nine more C–9s are included in the FY 1971 budget to modernize the forces in Europe and in the Pacific. These 21 C–9s will be used to replace 21 C–131 and 19 C–118 propeller aircraft.

We believe the tactical airlift forces programmed for end FY 1971 will provide an adequate capability in the active forces, even though a few C–123 squadrons are scheduled to be transferred to the South Vietnamese Air Force, and one C–7 squadron is being deactivated as a result of cumulative attrition. To offset this loss of tactical airlift capability, we are forming two additional C–130E squadrons with aircraft procured in FY 1969–70, for a total of 16.

At end FY 1969, there were seven C–130A squadrons (each with 16 unit equipment aircraft) and five C–130B squadrons (four with 16 unit equipment and one with 12 unit equipment aircraft) in the active force. During FY 1970, one 12 unit equipment C–130B squadron is being inactivated to replace attrition losses in the remaining four squadrons, and two C–130A squadrons are being phased into the reserve components. Another C–130B squadron will be inactivated in FY 1971, and 12 C–130Bs will be transferred to the Air Weather Service.

The remaining C–130A and B squadrons will be phased from the active forces to the reserve components during FY 1972 and FY 1973. We plan to use the C–130As to form nine Air Force Reserve and nine Air National Guard units, each with six unit equipment aircraft. The C–130Bs will be used to form three Reserve and three Guard units, each with eight unit equipment aircraft. It may be possible to speed up the phasing of the C–130As and Bs into the reserve components if the situation in Vietnam permits.

In order to provide for a new tactical airlift aircraft in the late 1970s, we have included $2 million in the FY 1971 budget for technology studies and the development of advanced components for a new intra-theater transport.

Air Force Reserve Component Airlift

The Air Force Reserve airlift forces proposed for FY 1970 and for FY 1971 must be considered somewhat tentative pending completion of hearings before the House Armed Services Airlift Subcommittee. However, the FY 1971 budget is based on a planned force of 33 units: 15 C–124, 4 C–130 and 14 C–141 associate units. At end FY 1969, there were 36 Air Force Reserve airlift units: 10 C–119, 19 C–124, 5 C–141 associate and 2 C–130. Most of the C–119 units and some of the C–124 units have already been converted to other airlift aircraft or other missions. Some of the remaining adjustments required to attain the planned end FY 1971 force structure will be postponed, until they have been discussed further with all the appropriate Committees.

The formation of the associate units is progressing well and we remain confident that it is the most effective way to increase our reserve airlift capability. We anticipate forming C–5A associate units in FY 1972 as these aircraft become operational. The associate units, however, with their high level of interdependence between the active and reserve forces are more suited for the Air Force Reserve than the dual command structure of the Air National Guard. We, therefore, plan to have all of the associate units in the former and none in the latter.

Seventeen Air National Guard airlift units—4 C–97, 10 C–124, 2 C–130 and 1 C–123—will be in existence at the end of FY 1970 and will be retained through FY 1971. Nine units, which were formerly equipped with airlift aircraft, have been converted to the following missions during the past few years: four aeromedical airlift, one tactical electronic warfare, two tactical air support groups, and two air refueling groups.

Navy and Marine Corps Airlift

At the end of FY 1970 the fleet tactical support (FTS) category will consist of 82 aircraft, including C–1/C–2 (carrier-on-board delivery), C–118, C–130, and C–131 aircraft. We plan to buy eight additional C–2 aircraft in FY 1970 to provide an adequate capability to air deliver to carriers on station during periods of peak demand. The FTS force will then contain a total of 90 aircraft, including 45 carrier-on-board delivery aircraft.

The Marine Corps airlift force and the Navy Reserve airlift force are the same as those described last year, a total of 71 aircraft in the former and 77 aircraft in the latter. We plan to retain all of these aircraft.

Sealift

The new National Maritime Program, if approved by the Congress, should produce by 1980 a fleet of about 408 general cargo ships, as shown in Figure 8.

This maritime program, if successfully implemented by industry, should eventually provide sufficient sealift augmentation to meet the sustaining support requirements of even the most demanding military contingency for which we are currently planning. In the early to mid-1970s, however, we could still be faced with a shortage of sealift if the pace of new construction does not keep up with the attrition rate for old and obsolete commercial ships. Accordingly, the usable ships in the National Defense Reserve Fleet (NDRF) should be retained until the shipbuilding rate overtakes the block obsolescence of the commercial fleet. As of Jan. 1, 1970, there were 45 usable cargo ships in the NDRF, excluding the 94 ships under the control of the Military Sea Transportation Service. It is planned that virtually all of these vessels will be returned to the Maritime Administration by the end of FY 1970. By the mid-1970s we expect that only about 120 Victory ships (equivalent to about 52 C5–S–75a ships) will still be usable.

While the new maritime program would solve the problem of total sustaining sealift capacity, the defense need for immediately available and suitable shipping precludes our sole reliance on commercial sources, just as we cannot depend solely on the commercial airlift capability of the Civil Reserve Air Fleet. There are three basic reasons why this is so.

First, commercial vessels are operated over worldwide trade routes and assembling them in an emergency consumes valuable time. Even when we have a period of strategic warning prior to the decision to deploy forces, it is not always possible or desirable to call the commercial ships off their routes and hold them in readiness for deployments which may or may not be required.

Second, the trend toward containerships in the commercial trade is resulting in a fleet of specialized ships which are usable for resupply cargo but not for moving the heavy and outsize equipment of combat and combat support units. Army vehicles, aircraft, and weapons, for example, require large and unobstructed cargo compartments for loading. In addition, the equipment of the initial units deployed must be loaded in a manner which provides for immediate use (*e.g.*, no disassembly of major parts) and for unit integrity. For economic reasons, the commercial fleet cannot reasonably be expected to develop the capability to meet these requirements.

Third, the commercial containerships depend upon highly developed port facilities for unloading their cargo. However, the ships we need in the earliest stages of a conflict are the kind which can unload their cargo rapidly with no external assistance, and even where no ports exist.

These military sealift needs stand in contrast to the prevailing trend in the Merchant Marine. Today, containerships comprise about 15 percent of the U.S. commercial general cargo sealift capability, but this figure is expected to increase to about 40 percent by 1975 and 60 percent by 1980.

In summary, we want elements of our General Purpose Forces to be so structured and supported by airlift and sealift as to permit them to be deployed rapidly to Asia or Europe. We will not be prepared to do this unless the Defense Department has a sealift capability which is always under its control, and which can move the outsize equipment of these forces in a ready-to-use condition.

The existing Defense Department-controlled inter-theater sealift force consists of 15 Victory ships, 6 old aircraft ferries and 2 roll-on/roll-off ships, 1 constructed in 1958 and the other in 1966. In addition, we have one new, privately-owned roll-on/roll-off ship, the Admiral Callaghan, on long-term charter, and three FFD Victory ships. This sealift force has very limited capability for rapid deployment. Accordingly, some augmentation and modernization of this fleet is essential. The charter program discussed previously in this statement would provide the required capability.

As in the case of the new cargo ship program, the new tanker program presented to the Congress last year was also delayed because the presently authorized charter period was too short to be attractive to investors. Under this program, nine new tankers would be acquired through long-term charter to replace the 16 T–2 tankers now in the MSTS fleet. (The new tankers, 25,000 tons deadweight and 32-foot draft or less, are needed primarily to provide deliveries to ports which cannot handle the larger tankers.) The ships would be built to MSTS design criteria and operated under MSTS control. As they become available in the FY 1974–76 period, the T–2s would be phased out and the MSTS nucleus fleet tanker force would be reduced from the present level of 25 ships to 10. We now plan to proceed with this program as soon as the proposed legislation is enacted.

One other matter in the sealift area is worthy of note. At the beginning of FY 1970 there were 11 troopships in the MSTS fleet, 3 in full operating status (used primarily for rotation of South Korean troops between South Korea and South Vietnam) and 8 in ready reserve status, manned by skeleton civil service crews. In order to reduce FY 1971 expenditures, the Navy has decided to transfer in FY 1970 the eight ships in ready reserve status to the National Defense Reserve Fleet leaving only the three ships now in operation in the Western Pacific.

Estimate of U.S. Flag General Cargo Ships Under New Maritime Program

	1970	1975	1980
Existing Ships	508	220	187
New Construction Ships	—	104	221
Total Ships	508	324	408
In C5–S–75a Equivalents*	310	296	432

*The C5–S–75a is a cargo ship with about a 25,000 measurement ton capacity, a 21-knot speed and a 7-day loading or unloading capability.

Figure 8.

Research and Development

Research and development is one of the most crucial activities financed in the DOD budget. I believe we can all agree that without an adequate research and development effort, our military forces in the future could find themselves out-maneuvered and out-gunned. Far worse, our nation could find itself without an effective strategic deterrent.

Yet it is very difficult to determine with any degree of confidence what constitutes an adequate research and development effort. One factor contributing to this uncertainty is our inability to project with any reasonable degree of accuracy the technological threat to our national security over the next 10 to 20 years.

There is one thing we do know: we cannot settle for anything short of technological leadership in research and development related to national security. The FY 1971 defense budget request for research, development, test, and evaluation (RDT&E) is intended to meet this objective. It reflects our changing priorities within a constrained budget by reducing the funds for the latter stages of development and by sustaining the technological base required to meet possible future requirements. I regard this RDT&E budget as the minimum with which we can have some confidence of meeting our needs in the future.

Soviet Technological Threat

The most formidable technological threat confronting the United States today is the already large and rapidly growing military-related research and development effort of the Soviet Union. Measured in terms of money expended, the Soviet Union is devoting more effort to military-related research and development than is the United States.

Direct comparisons of Soviet and U.S. Government research and development expenditures are always subject to a possibly substantial margin of error because of our limited information on Soviet budgets, and uncertainties about the real purchasing power of the ruble in relation to the dollar. We currently estimate that, on the best available basis for comparison, the Soviet Union in 1970 will spend $16 to $17 billion for defense, space, and atomic energy research and development, and for other space-related activities, compared with U.S. expenditures of about $13 to $14 billion.

During the last few years, Soviet expenditures on such research and development and space activities have been increasing at a rate of about 10–13 percent per year, while comparable U.S. expenditures have remained relatively constant, and our actual effort has declined when inflation is taken into account. As a result, the Soviet Union probably has forged ahead of us in terms of the total effort currently being devoted to defense-related research and development. Nevertheless, I believe we still have a technological lead over the Soviet Union because of our greater past expenditures.

What this general trend means for the future security of the United States and the Free World simply cannot be clearly foreseen at this time. Expenditure comparisons alone are only one measure, of course, of the contribution of research and development programs to military capability.

It is very difficult to compare the results of U.S. and Soviet research and development programs. Because the Soviet Union is a closed society, it can and does conduct much of its military research and development programs in secrecy, making it very hard for us to have a timely assessment of its progress. However, once a Soviet system reaches the test and evaluation phase, we can of course obtain valuable information.

As you know, we have been able to observe a number of new Soviet systems which use highly advanced technology and production techniques: the Foxbat aircraft, nuclear-powered ballistic missile submarines, new types of attack submarines, new radars and missiles both for missile and for air defense, anti-ship missiles, new ASW ships equipped for helicopter operations, and smaller items such as the advanced rocket-launcher introduced effectively into Vietnam. The technology of many of these systems is comparable to U.S. technology. In some cases, however, our current systems are clearly more advanced.

Nevertheless, we simply do not know enough about the specific details of the Soviet research and development program inside their laboratories and research institutes to assess fully the entire threat. Under these circumstances, the only course we can prudently follow is to advance our own knowledge at a reasonable pace in every area judged to be important to our future military strength.

This does not mean developing and procuring new systems just because it becomes possible to do so. It does mean that to ensure our future safety, we must invest each year a reasonable amount of resources, not only for development of new military equipment and weapon systems, but also for improvement and expansion of our technological base.

Exactly what specific new weapons and equipment should be developed at any particular time is a difficult but tractable problem. Here, our existing knowledge and understanding of the technological threat offers some useful guidance. For example, it is clear from what we already know about the new Soviet fighter aircraft now being tested, that we will need more capable air-to-air fighter aircraft than we now have, if we wish to ensure our battle-field air superiority in the late 1970s. We believe that such air superiority is absolutely essential to enable U.S. and allied ground forces to carry out their assigned missions.

How such a new air superiority aircraft should be designed, what performance characteristics it should have, how many we should buy and what they should cost, are all matters which are properly subject to analysis, rational debate, and review within and between the Executive Branch and the Congress.

The management process is not as straightforward, however, in those categories of research and development which constitute our technological base, *i.e.*, research, exploratory development, and some areas of advanced development. (These categories account for about 15 to 20 percent of the total research and development costs.) Here, we are dealing with thousands of individual tasks and projects, each of which is intended to make some significant contribution to the overall base from which we could draw in the later development of a particular piece of hardware.

And, although this supporting technological base is difficult to evaluate and manage, its critical importance to our military strength—5, 10, and 20 years in the future—is obvious. This is precisely the area in which we are most deficient in our knowledge of the Soviet technological threat.

If we fell behind the Soviet Union in the basic areas of research and development, it would be difficult, expensive, and time consuming to catch up. Therefore, the only reasonable course is to press forward in our search for new knowledge at a reasonable pace and in a balanced manner to cover all areas of importance to our future military strength.

Throughout these projects, my own staff carefully reviews the broad areas of technical need, and we do require detailed justifications of the approach taken and the relevance of each effort to military functions. The Military Services carry out more detailed reviews of every project on a continuous basis.

The technological base is managed and funded in terms of a structured set of goals, detailed program objectives, and priorities for funding. We are experimenting now with applying even greater discipline by adapting the Development Concept Papers (DCPs), now in effect for major weapon systems development programs, to broad categories of technology. I believe that this could be a major step forward in better research and development management.

Program Summary

For FY 1971 we are requesting a total of $7,346 million for RDT&E. This is $23 million less than the amount actually appropriated for FY 1970. Considering inflation, this represents about a 5-percent reduction in effort between FY 1970 and FY 1971.

Figure 9 shows the research, development, test and evaluation (RDT&E) request for FY 1971 by research and development categories compared to RDT&E for FY 1965, FY 1969, and FY 1970. From this table you will note that funds for the research, as well as the management and support categories, have been held roughly constant. When one takes into account increases in the general price level and civilian pay raises, real funds for these areas will decline about 5 percent from FY 1970 to FY 1971. This decrease will result in fewer research contracts and in personnel reductions at the field laboratories and test facilities.

The slight increase in exploratory development funding should just about offset the cost of living increases—thus providing essentially a constant level of actual effort in exploratory development, compared with FY 1970.

The advanced and engineering development categories show large increases in funding for FY 1971 compared to FY 1970. The advanced development increases are concentrated in new missile, helicopter and ship programs. The engineering development increases are largely attributable to the F–15, S–3A, A–X, a new ship air-defense system called Aegis (formerly ASMS), and other airborne weapons and equipment; some decreases have been made in Maverick, Army electronic equipment developments, and other programs. These increases in advanced and engineering development reflect our view that we must provide advanced systems to meet critical identified threats.

Financial Summary of Research and Development

(TOA, $ Millions)

	Fiscal Year				
	1965	1968	1969	1970	1971
Research	380	376	414	379	380
Exploratory Development	1,099	934	902	887	932
Advanced Development	744	703	965	940	1,114
Engineering Development	889	840	801	1,022	1,396
Management and Support	1,540	1,500	1,585	1,543	1,512
Emergency Fund				75	50
Sub-Total, Research and Development	4,652	4,353	4,667	4,846	5,384
Operational Systems Development	2,289	3,354	3,489	2,976	2,356
Total Research and Development	6,941	7,707	8,156	7,822	7,740
Less Support from Other Appropriations	502	419	400	383	394
Total Obligational Authority					
RDT&E Appropriations	6,439	7,288	7,756	7,439	7,346
Financing Adjustments	+44	–3	–127	–70	—
New Obligational Authority					
RDT&E Appropriations	6,483	7,285	7,629	7,369	7,346

Figure 9.

The large reduction in operational systems development is primarily the result of the reduced research and development funding for the F–14, Minuteman, F–111, Poseidon, and cancellation of the Manned Orbiting Laboratory program.

To illustrate our concern that we get the maximum results from available research and development funding, I should point out that we have been able to increase some RDT&E programs by about $900 million since FY 1968 through utilizing the funds released by cancellation of some programs and decreases in the special research and developments activities related to Southeast Asia. . . .

Adequacy of FY 1971 Request

It is true that when our FY 1971 RDT&E program request is considered in light of the growing Soviet technological activities, a serious question is raised about the adequacy of that request. In my view, we first must vigorously improve the efficiency of our research and development management in order to make sure that the available resources are used most effectively. Next, during this transition year we must and will carefully assess in conjunction with the Congress whether additional resources for the future will be needed to assure an adequate research and development effort.

We have already instituted major changes in the research and development management procedures of DOD. They are designed to improve our research and development planning, cut costs, and control the system acquisition process. . . .

We hope that improved management will help resolve much of the criticism focused in the past on defense RDT&E. Of course, favorable developments in other areas, including Strategic Arms Limitation Talks, might change the requirements we see today. Pending such developments, however, I hope we can all agree that the RDT&E request before you represents the absolute minimum program needed for FY 1971.

Other Research and Development Issues

The RDT&E efforts for selected Strategic, General Purpose, and Mobility Forces programs are discussed in the sections dealing with those forces. I would like to cover briefly a few other research and development areas.

Independent Research and Development

During the debates on the 1970 Authorization Bill, a number of proposals were made which, if approved, would have inhibited the independent research and development efforts funded by industry. A bill still under consideration by the Senate would prohibit the reimbursement of costs for independent research and development under negotiated contracts, unless such costs have been specifically provided for in the contract and are of direct or indirect benefit to the work performed under that specific contract. I believe that such restrictions would stifle new and imaginative efforts and, thus, effectively reduce the technological effectiveness of our industry. We are continuing an intensive re-examination of this entire matter.

Relationship of Research to "Specific Military Functions"

As you know, Section 203 of the FY 1970 Military Procurement Authorization Act provided that Defense Department research and development funds may not be used for projects unless they have a "direct and apparent relationship to a specific military function or operation." We intend to comply fully with this provision and we are now conducting a detailed review of the entire research and exploratory development categories. As this review proceeds, we will terminate or phase out all efforts that do not fulfill the provisions of Section 203.

I must caution, however, against expecting significant budget reductions because of this review. Most of our programs already fulfill the requirements of Section 203 because of the trend over several years of limitations on the budget available to examine an expanding range of technical opportunities. In this situation, only highly promising technical proposals related to important military needs could be supported. Further, the initial indications are that the budget cuts imposed on the military science activity by Congress in FY 1970 are much greater than the cuts likely to be associated with the Section 203 review. Thus, further cuts are being made even beyond those necessary to implement Section 203.

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Chemical Warfare and Biological Research

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For chemical warfare RDT&E in FY 1971, we are requesting $46.8 million; and for defensive biological research, $21.6 million. However, both of these programs are being further reviewed at my direction (and may be reduced) to design a new RDT&E effort fully reflecting the President's decisions.

Southeast Asia RDT&E (PROVOST) for FY 1971

A continuing Southeast Asia-oriented RDT&E effort is being maintained for three reasons: (1) to support our own transitional forces in Vietnam; (2) to provide for possible post-war application to U.S. General Purpose Forces; and (3) to provide some continuing assistance to our Southeast Asian allies. The research and development funding request for projects oriented to these objectives for FY 1971 is $381 million. . . .

[Editor's Note: A condensation of the statement on the FY 1971 Defense RDT&E Program, by Dr. John S. Foster Jr., Director, Defense Research and Engineering, before the joint Senate Committee, is planned for the May 1970 issue of the *Bulletin.*]

Management in the Defense Department

During the past year, there have been significant changes in Defense Department management. These changes have emanated from both inside and outside the department.

Changes from the Outside

A major impact on Defense Department management was caused by the revitalization and strengthening of the National Security Council (NSC) machinery, which had been dormant for eight years. This ranks as one of the most important changes effected by the Nixon Administration.

The Congressionally-approved National Security Act of 1947, as amended, clearly established this council's responsibility for making recommendations to the President about missions, roles and objectives involving United States national security. As this machinery fell into disuse during the 1960s, the President was deprived of the overall review, analysis, and debate he needed on both foreign and military policy.

Now, with the NSC and its machinery in full operation, the President is better able to make personally the basic decisions affecting our national security. Our reviews and resulting decisions of 1969 evolved within this national security machinery. Under this procedure, we are able to bring all governmental points of view to bear in an orderly manner and to conduct comprehensive investigations of the issues involved, ensuring consideration of all reasonable alternatives.

Many of the studies which the Defense Department does as a participant in the NSC process can be used as bases for our own planning. More important, the Defense Department has the benefit of explicit direction on national defense policy from the President through the NSC.

One of the most significant efforts of the NSC last year was a review of both our strategic and limited war strategies and the forces we plan for both. After a thorough study of these forces, their missions, and their required budgets, the President was able to promulgate clear policies on his strategy for our forces and on the resources required to maintain them. This is the strategy which I have previously discussed.

The second major change emanating from the outside and affecting the Defense Department was the President's establishment of the Defense Program Review Committee (DPRC) last October, which I also discussed earlier. Through this machinery, military, political and economic aspects of strategy and forces are considered together before defense requirements are ranked in the scale of national priorities.

These changes from the outside naturally have required a restructuring of management procedures within the department. I have three major points in mind:

First, formulation of broad national security policy and strategy now can be formally established at the Presidential level through the NSC. This avoids the appearance—and sometimes the fact—of defense domination of broad national security policy.

Second, these national-level mechanisms required new procedures to expedite Defense Department interaction with all proper agencies of the Federal Government on specific issues.

Third, and possibly most important, procedures had to be established to ensure that programs and actions at all levels of the department were responsive to the guidance provided by the President as a result of the deliberations and advice of the NSC and DPRC.

Changes from the Inside

As the Committee knows, the scope of the management problem in the Defense Department is unmatched in all the world. In size and in diversity, it has no peer.

A substantial portion of defense activities falls into fields of rapidly changing technology, increasing the risk that decisions may be wrong or quickly outmoded.

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Despite all the management difficulties, however, effective civilian control of the Defense Department is essential.

We have adopted and are in the process of implementing a concept of management which we believe provides improved efficiency, adequate civilian control and informed decisions. It is based on: participatory decision making, defined decentralization, and delegation of authority under specific guidance.

Ultimately, management of the Defense Department is the responsibility of the Secretary of Defense. I cannot delegate that responsibility, nor do I intend to try. Within the President's guidance, the basic policy decisions—such as the choice of major weapons systems for development and production, the level of our forces, the distribution of forces among missions, the deployment of forces throughout the world, as well as many specific issues of major significance—must be made by [Deputy Secretary of Defense] Packard and me.

These decisions are made, however, with the participation of our colleagues. We encourage full discussion among senior military officers and civilian officials within the department of all major issues. I particularly insist that the views of the Joint Chiefs of Staff and of the Military Departments be given full consideration when decisions are being made that involve their particular expertise and experience.

Except for the major policy decisions, I am striving to decentralize decision making as much as possible. The Military Services and the Joint Chiefs of Staff have a great capability for planning, analyzing and developing military forces. They are the ones who will have to operate and support the forces we field. So, we are placing primary responsibility for detailed force planning on the Joint Chiefs and the Services; and we are delegating to the Military Departments more responsibility to manage development and procurement programs.

When I speak of delegation of decision-making authority, I certainly do not mean a mere abdication of authority by myself and Secretary Packard. Before decision-making power is delegated, we attempt to define the specific levels and types of decisions to be made by subordinate authorities; to identify precisely the persons who will bear the delegated responsibility and authority; to set the limits of time, money, schedule and performance for the delegated authority; and to designate the specific monitoring system to measure performance. We also ensure that adequate, specific policy guidance is issued in each area in which decision-making authority is delegated.

Let me give you a few specific examples of major changes in management procedures.

Revised Planning-Programming-Budgeting System

We have made significant improvements in the Planning-Programming-Budgeting System (PPBS) which we believe will increase its effectiveness. The revised system became operational on January 1 of this year, and the FY 1972 budget will be the first to be formulated under it. The system incorporates two types of guidance issued by the President as a result of the NSC process—one strategic, the other financial.

After strategic objectives have been set by the President, the Joint Chiefs of Staff (JCS) prepare a detailed strategy statement oriented to force planning which is reviewed in my office. I then issue specific strategy guidance, with full participation by and input from the JCS.

The President also issues overall fiscal guidance. I break the overall fiscal guidance down by Military Services and by major mission and support categories. Then, I issue detailed fiscal guidance.

The detailed strategy guidance and the more detailed fiscal guidance are the bases for the JCS and Service force planning. The Services meanwhile prepare a five-year program and budget plan. These are coordinated and integrated through formal procedures specified in the PPB System. These new procedures will help me to approve a budget and a five-year defense plan in a timely manner, based on a thorough study and analysis by the military and civilian staffs.

Let me make clear that neither the President's fiscal guidance nor my more detailed fiscal guidance is irrevocable. Figures provided are not ceilings, but guidance. Both are subject to review should the threat or the relevant technology change significantly or should an error be discovered.

Thus, the PPB System becomes a more important top management tool in both strategic policy and fiscal guidance. The new system also broadens participation in the decisions. Lower echelons thus can contribute to a coordinated result.

Weapons Systems Acquisition

In acquiring major weapon systems, we have clearly defined the division of responsibility that will pertain within the Office of the Secretary of Defense and between my office and the Military Services.

We are also working with the Services to improve their management procedures. We must be assured that the lines of authority within the Service will be clear, direct and uncluttered by staff layering so as to permit effective monitoring while avoiding interference with the individual to whom specific authority is delegated.

Problem of Cost Growth

Because of the serious problem of cost growth in major weapon systems acquisition, we are concentrating strong efforts on this problem.

I have testified previously before Congressional Committees that as of June 30, 1969, the cost of 34 major weapon systems had grown some $16.2 billion in excess of original or baseline estimates reported before.

Reasons for Cost Growth

The largest single cause of cost growth is over-optimism in original cost estimates. Two examples of this are the F–15 and DD–963 programs. The planning estimate of total program costs for the F–15 was about $6 billion when approval was given to commence contract definition in September 1968. Our current estimate for the same number of aircraft based on the contract recently signed with McDonnell-Douglas Corp. is $7.3 billion, resulting in over $1.3 billion cost growth.

The DD–963 planning estimate, adjusted to reflect a 50-ship buy, was about $2.8 billion. Our current estimate is some $4.2 billion, again with over $1.3 billion cost growth.

Both the contractors and the Military Services have the same predispositions toward over-optimism in estimating costs. The competition between programs for limited financial resources is severe within the Services. The competition for weapon systems contracts stimulates wishful thinking about economies that can be made.

In our detailed review of the problems associated with weapons acquisition during 1969, we identified the following factors as major causes of the very serious cost growth that has occurred in past years.

Revision of Estimates. This factor accounts for about half of the total cost growth. In this area the most serious problem is unrealistic and overoptimistic estimates early in the program. In the case of the F–15 which went out on contract this year, the growth mentioned earlier is entirely the result of faulty estimates in the planning stage.

In other programs the development problems were underestimated at the beginning of the hardware development and the cost growth was further increased because production was started before development problems were solved. This is a significant factor in the C–5A, the F–111 and the Mark 48.

The large cost growth due to revision of estimates resulted, at least in part, from deficiencies in management both by the contractor and the Service involved.

The following steps have been taken to reduce this type of cost growth in the future:

- More realistic and accurate estimates of cost early in the program.
- Better risk evaluation of the uncertainties likely to be encountered in development.
- Emphasis on accomplishing milestones of achievement in the development phase rather than meeting a predetermined time schedule.
- Changes to assure a minimum committal to production before development is complete.
- Steps to encourage better management by both the responsible Service and by the contractor. This includes more emphasis on meeting cost objectives rather than on meeting only schedule and performance objectives.

Economic Change. This is a factor of cost growth which is difficult to control, but allowances for inflationary increases in cost will be included in future estimates.

Engineering Change. This type of action, normally initiated by the contractor, generates cost growth, which may be justified if the change results in cost-effective performance improvement. This is another major contributor to cost growth. While the need for some changes is valid, much improvement is possible in controlling changes. This will be accomplished—first, by assuring that we do a more complete job of defining what we really need in a system before entering full-scale development; and second, by vigorous review and determination to eliminate many "nice" or "desirable" features which have in the past crept into these systems. Accordingly, we have established thresholds which limit authority of major program managers to order changes without the specific approval of Secretary Packard or myself.

We are attempting to reduce dependence on paper analysis to validate designs, preferring to rely on hardware demonstration and competitive prototypes where feasible. Because of the complexity of modern weapon systems, the cost of competitive prototype development is prohibitive in many cases. We have tried to adapt the principal advantages of prototyping to current weapons development by testing components and having competitive "fly-offs" wherever possible. We are also studying the possibility of increasing the instances where prototyping is feasible by shifting emphasis somewhat from total systems development to component development. This would have the added advantage of limiting the exposure to technological risks.

We are also focusing on general deficiencies in the amount and quality of test and evaluation on a developmental weapon system before it is committed to production. Much remains to be done to improve test and evaluation.

System Performance Change. This also has been a major factor in cost growth. The improved performance may be worth the increased cost. Often in the past, such changes, initiated either by the Government or the contractor, have not been evaluated in relation to the cost increase which results. More emphasis on cost versus performance should result in better control of this type of cost growth. In fact, there may be cases where a reduction in performance may be justified when evaluated in relationship to cost.

Schedule Changes. These result from changes in funding and also from a reevaluation of requirements. With lower levels of funding which require a stretch out in production, unit costs are bound to increase, and this will continue to be a problem as programs are reoriented.

Another reason for underestimating costs has been the failure to appraise adequately the risks of rushing into production on major programs. The tendency has been to short cut the time and the effort which should have been spent in the advanced development stages, where the risk of major failures should be identified instead of during full-scale development. We have instructed the Military Departments that, during concept formulation, they are to identify and analyze the areas of high technical risk. Where formal risk analysis shows that we are not ready for full-scale development, we will defer system development, thereby cutting the risk for the contractor and reducing the temptation for the Government to make over-optimistic forecasts.

Development Concept Paper

Last year I discussed with you the Development Concept Paper (DCP) and our use of this mechanism to help us make the fundamental decisions on about 80 selected major weapon systems. The DCP contains in a paper of 20 pages or less all the relevant data and options on a given system and the timetable for reviews at various thresholds. No major development can be initiated before an acceptable DCP is prepared.

Let me mention another change in our management that supports the DCP process: the Defense Systems Acquisition Review Council. This council, consisting of the key officials in DOD, reviews each major weapon system at the three most important transition points it its life: conceptual to validation phase, validation to full-scale development phase, and full-scale development to production phase. Its function is to advise me or the Deputy Secretary of Defense of the status and readiness of the program to proceed to the next phase in its life cycle. Starting with the first review in September 1969, 6 reviews have been held to date and about 30 more are scheduled for the remainder of the year.

The 80 major development programs represent only a portion of our total research and development activity for which DCPs are prepared. There are about 2,000 smaller programs and projects. It is clearly not feasible to prepare and review at the Secretary of Defense level a separate DCP on each of the myriad of programs that do exist. Yet, we believe it would be most beneficial to have the advantages of the DCP-type management tool available for the entire spectrum of research and development programs. Accordingly, we are studying the feasibility of designing and utilizing a type of Development Concept Paper for each mission or broad technology area encompassed in our research and development programs. The extension of the DCP approach to these programs is by no means a simple problem, but the potential for improved management justifies diligent and exhaustive effort to make this extension of the DCP concept a reality.

Although the major trend of our management is in the direction of greater delegation of responsibility and authority, the decentralization is selective, not random. In some areas, we find that despite the strong trend in recent years toward centralization in the Defense Department, the management of some critical and high-cost activities is still markedly diffused. In these areas, some centralization is essential to sound management.

* * * * *

Logistics

While the weapon systems acquisition process is an important part of logistics, it is only a part of the total logistics problem of supporting our forces stationed around the world. After contracts are awarded, they must be administered until completed. After equipment is delivered, it must be operated and maintained.

I found when I became Secretary of Defense no adequate management tools in the department to enable top management to evaluate overall logistics performance so that timely corrections could be made.

. . . Mr. Packard, in March 1969, directed the Assistant Secretary of Defense for Installations and Logistics [Barry Shillito] to develop a system which would permit us to establish realistic objectives, measure progress, evaluate results, and take prompt corrective action when necessary. In the initial program, emphasis was to be placed on 20 to 30 carefully selected key logistic areas, in order to avoid spreading our efforts too thinly.

The new Logistics Performance Measurement and Evaluation System was formally established by DOD directive in May 1969. As of Sept. 30, 1969, some 19 areas were being actively monitored. I would like to illustrate how the new system works by citing two examples, one in contract administration and one in supply management.

A letter contract is perhaps the least desirable contractual arrangement from the government's point of view, since the only effective protection afforded the taxpayer is the limit on expenditures stated in the contract. The work to be performed, the schedule to be met, the price to be paid, etc., are all subject to later negotiations. Consequently, a letter contract should be used only in the most extraordinary circumstances, where time is of the essence. And, even then, a letter contract should be converted to a definitized contract as soon as possible.

At the end of FY 1965, there was a total of $562 million in defense letter contracts outstanding. By the close of FY 1967, under the pressure of the Vietnam buildup, the amount outstanding had grown to almost $5 billion—$3.6 billion of which had been outstanding for more than six months. Even as late as December 1968 some $4.4 billion was outstanding, of which more than $2.9 billion was six months old or older.

This was one of the first areas to be included in the new system. As of the latest reporting date, Sept. 30, 1969, the total amount outstanding had been reduced to about $2.2 billion, and the amount over six months old to less than $1.5 billion. Our goal is to reduce the total outstanding balance to about $2 billion and the amount over six months old to about $1.1 billion by June of this year.

Stock availability was another subject selected for special management attention. One of the first problems we found in this area was that the Navy did not even have the data required to begin with. This deficiency was corrected, but not in time for the Sept. 30, 1969, Status Report.

With regard to the other Military Services, it appears that in FY 1969 the Army was able to meet 75 percent of its demand from stocks on hand, the Marine Corps 60 percent, the Air Force about 69 percent and the Defense Supply Agency about 90 percent.

Ultimately, we hope to raise the Military Services to 85 percent, but we cannot expect them to match Defense Supply Agency, which deals primarily with relatively low-cost and technically simple items. Ultimate goals must be restrained, of course, to preserve flexibility and to avoid an uneconomical increase in stock levels. This restraint will take the form of improved inventory management techniques. Thus, our broader objective in this area is to maximize supply availability while holding our investments in inventories to the lowest feasible levels.

Blue Ribbon Defense Panel

I believe it is evident that we have had some encouraging results from our attack on management problems thus far, but equally evident is the fact that much remains to be done. Where deficient organization and procedures must be improved, both in the resource-management and command areas, undesirable duplications and effort must be eliminated. Information reporting must be refashioned to meet needs, not just curiosity. Indirect costs must be identified, measured, evaluated and reduced everywhere possible.

For the longer-range attack on our organizational and management problems, we are expecting assistance from the study and recommendations of the Blue Ribbon Defense Panel under Chairman Gilbert Fitzhugh, the report of which is due June 30.

* * * * *

Financial Tables Relating to Defense Department Budget FY 1971

Table No. 1

FINANCIAL SUMMARY

(Millions of Dollars)

	FY 1964	FY 1968	FY 1969	FY 1970		FY 1971
				Johnson	Current	
DOD Program						
Strategic Forces	8,576	7,387	8,581	9,425	7,459	7,947
General Purpose Forces	16,883	31,257	30,657	30,504	27,845	24,731
Intelligence and Communications	4,309	5,487	5,820	6,017	5,552	5,238
Airlift and Sealift	1,078	1,814	1,584	2,039	1,724	1,481
Guard and Reserve Forces	1,784	2,203	2,149	2,800	2,534	2,475
Research and Development	4,923	4,354	4,674	5,485	4,847	5,402
Central Supply and Maintenance	4,515	8,469	9,374	9,456	9,447	8,430
Tng, Medical, Other Gen Pers Activities	6,419	11,860	12,417	12,562	13,005	12,585
Admin and Assoc Activities	1,075	1,259	1,308	1,375	1,494	1,489
Support of Other Nations	1,062	2,385	2,869	3,339	3,128	3,162
Total—Direct Program (TOA)	50,624	76,475	79,432	83,002	77,035	72,941
DOD Component						
Department of the Army	12,275	25,245	26,180	26,331	23,864	21,663
Department of the Navy	14,417	21,103	21,795	24,408	22,799	21,744
Department of the Air Force	19,967	25,200	26,126	26,222	24,274	22,729
Defense Agencies/OSD	1,008	1,503	1,575	1,781	1,738	1,728
Defense-wide	1,858	2,738	3,006	3,475	3,607	4,338
Civil Defense	111	86	61	75	70	74
Military Assistance Program	989	600	689	709	684	664
Total—Direct Program (TOA)	50,624	76,475	79,432	83,002	77,035	72,941
DOD Budget Title						
Military Personnel	12,983	19,961	21,385	21,649	22,491	21,033
Retired Pay	1,211	2,093	2,443	2,735	2,859	3,194
Operation and Maintenance	11,695	20,951	22,285	21,941	21,422	19,512
Procurement	14,997	23,290	23,108	25,124	20,300	18,649
Research, Develop., Test, & Evaluation	7,054	7,290	7,756	8,179	7,439	7,346
Special Foreign Currency Program	—	—	5	4	5	8
Combat Readiness, SVN Forces	—	—	—	—	—	300
Military Construction	983	1,604	1,181	1,951	1,142	1,424
Family Housing	602	600	519	634	624	737
Civil Defense	111	86	61	75	70	74
Military Assistance Program	989	600	689	709	684	664
Total—Direct Program (TOA)	50,624	76,475	79,432	83,002	77,035	72,941
Financing Adjustments	298	−73	−2,903	−2,357	−3,108	−1,690
Budget Authority (NOA)	50,922	76,402	76,529	80,645	73,928	71,251
Outlays	50,786	78,027	78,666	79,000	77,000	71,791

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Table No. 2

CHRONOLOGY OF THE BUDGET—FY 1970 AND FY 1971

(Millions of Dollars)

	FY 1970 Budget					
	Johnson budget	Budget as amended Apr. 15, 1969	Current budget excl. suppl.	Military, civilian and retired pay suppl.	Current budget	FY 1971 budget
Program (TOA)						
Military Personnel	21,649	21,642	20,835	1,656	22,491	21,033
Retired Military Personnel	2,735	2,735	2,735	124	2,859	3,194
Operation & Maintenance	21,941	21,792	20,851	571	21,422	19,512
Procurement	25,124	23,128	20,300	—	20,300	18,649
Research, Dev., Test & Evaluation	8,179	8,227	7,439	—	7,439	7,346
Combat Readiness, SVN Forces	—	—	—	—	—	300
Military Construction	1,951	1,418	1,142	—	1,142	1,424
Family Housing	634	627	624	—	624	737
Civil Defense	75	75	69	1	70	74
Spec. Foreign Curr. Prog.	4	4	5	—	5	8
Subtotal—Military Functions	82,293	79,649	73,999	2,352	76,351	72,276
Military Assistance	709	759	684	—	684	664
Total—TOA	83,002	80,408	74,683	2,352	77,035	72,941
Financing Adjustments	−2,357	−2,820	−3,108	—	−3,108	−1,690
Budget Authority (NOA)	80,645	77,589	71,576	2,352	73,928	71,251
Outlays	79,000	77,893	74,674	2,326	77,000	71,791
Program (TOA) by Component						
Dept. of the Army	26,331	24,967	23,022	842	23,864	21,663
Dept. of the Navy	24,408	23,881	22,109	690	22,799	21,744
Dept. of the Air Force	26,222	25,437	23,652	621	24,274	22,729
Defense Agencies/OSD	1,781	1,771	1,663	74	1,738	1,728
Defense-wide	3,475	3,518	3,483	124	3,607	4,338
Civil Defense	75	75	69	1	70	74
Military Assistance	709	759	684	—	684	664
Total—Department of Defense	83,002	80,408	74,683	2,352	77,035	72,941

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Table No. 3

DIRECT BUDGET PLAN (TOA), BUDGET AUTHORITY (NOA) AND OUTLAYS

Fiscal Years 1969–1971

(Millions of Dollars)

	Direct Budget Plan (TOA)			Budget Authority (NOA)			Outlays		
	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971
Functional Classification									
Military Personnel									
Active Forces	20,487	21,382	19,916	20,494	21,382	19,916	20,482	21,250	19,843
Reserve Forces	897	1,109	1,117	934	1,109	1,117	892	1,051	1,068
Total—Military Personnel	21,385	22,491	21,033	21,427	22,491	21,033	21,374	22,301	20,911
Retired Military Personnel	2,443	2,859	3,194	2,450	2,859	3,194	2,444	2,857	3,193
Operation and Maintenance	22,285	21,422	19,512	22,349	21,422	19,512	22,227	21,500	19,650
Procurement	23,108	20,300	18,649	20,542	17,842	17,357	23,988	21,550	18,799
Research, Development, Test, & Eval.	7,756	7,439	7,346	7,629	7,369	7,346	7,457	7,300	7,382
Combat Readiness, SVN Forces	—	—	300	—	—	300	—	—	105
Military Construction	1,181	1,142	1,424	1,168	959	1,416	1,389	1,124	1,154
Family Housing	519	624	737	512	607	719	572	630	623
Civil Defense	61	70	74	60	70	74	87	75	70
Special Foreign Currency Program	5	5	8	—	—	3	1	2	5
Revolving and Management Funds	—	—	—	—	—	—	−1,535	−700	−544
Offsetting Receipts	—	—	—	−128	−135	−158	−128	−135	−158
Trust Funds	—	—	—	8	7	7	10	8	8
Intragovernmental Transactions	—	—	—	−8	−7	−7	−8	−7	−7
Total—Military Functions	78,743	76,351	72,276	76,010	73,484	70,798	77,877	76,505	71,191
Military Assistance—Gen. Accts.	689	684	664	671	625	622	686	556	664
MAP Offsetting Receipts—Fed. Funds	—	—	—	—	−11	−39	—	−11	−39
MAP Trust Funds	—	—	—	808	850	850	1,062	970	955
MAP Offsetting Rects.—Trust Funds	—	—	—	−959	−1,020	−980	−959	−1,020	−980
Total—Military Assistance	689	684	664	520	444	454	789	495	600
Grand Total—Dept. of Defense	79,432	77,035	72,941	76,529	73,928	71,251	78,666	77,000	71,791
Summary by Component									
Department of the Army	26,180	23,864	21,663	25,042	23,225	20,883	25,035	24,402	21,553
Department of the Navy	21,795	22,799	21,744	20,968	21,751	21,492	22,508	22,339	20,865
Department of the Air Force	26,126	24,274	22,729	25,304	23,162	22,306	25,892	24,676	23,079
Defense Agencies/OSD	1,575	1,738	1,728	1,625	1,689	1,728	1,295	1,460	1,616
Defense-wide	3,006	3,607	4,338	3,010	3,586	4,316	3,060	3,553	4,008
Civil Defense	61	70	74	60	70	74	87	75	70
Military Assistance	689	684	664	520	444	454	789	495	600
Grand Total—Dept. of Defense	79,432	77,035	72,941	76,529	73,928	71,251	78,666	77,000	71,791

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Table No. 4

DIRECT BUDGET PLAN (TOA), BUDGET AUTHORITY, AND OUTLAYS

Fiscal Years 1969–1971 by Functional Classification and Department or Agency

(Millions of Dollars)

	Dept. of Defense—Total			Dept. of the Army			Dept. of the Navy			Dept. of the Air Force			Def. Ags./OSD/ OCD/MAP		
	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971	FY 1969	FY 1970	FY 1971
Military Personnel															
Active Forces	20,487	21,382	19,916	8,410	8,670	7,924	5,990	6,386	5,896	6,087	6,326	6,096	—	—	—
Reserve Forces	897	1,109	1,117	588	720	724	157	193	198	153	196	195	—	—	—
Total—Military Personnel	21,385	22,491	21,033	8,998	9,390	8,647	6,147	6,579	6,095	6,240	6,521	6,291	—	—	—
Retired Military Personnel	2,443	2,859	3,194	—	—	—	—	—	—	—	—	—	2,443	2,859	3,194
Operation and Maintenance	22,285	21,422	19,512	8,249	7,739	6,619	5,819	5,617	5,161	7,118	6,877	6,520	1,099	1,189	1,212
Procurement															
Aircraft	8,008	6,449	6,327	811	471	294	2,414	2,023	2,518	4,783	3,954	3,514	—	—	—
Missiles	3,282	3,203	3,670	888	819	1,087	754	824	1,003	1,640	1,561	1,580	—	—	—
Ships	1,070	2,632	2,579	—	—	—	1,070	2,632	2,579	—	—	—	—	—	—
Tracked Combat Vehicles & Other Weapons	542	359	330	512	304	274	28	47	56	2	8	—	—	—	—
Ordnance, Vehicles & Rel. Equip.	6,603	4,488	3,260	3,309	2,155	1,657	1,545	1,229	720	1,747	1,103	881	2	1	2
Electronics & Communications	1,514	1,147	893	603	315	273	474	386	305	426	429	301	10	17	13
Other Procurement	2,090	2,022	1,590	594	597	352	1,016	926	781	434	431	422	46	69	35
Total Procurement	23,108	20,300	18,649	6,717	4,661	3,937	7,302	8,067	7,963	9,032	7,486	6,699	57	86	50
Research, Development, Test, & Evaluation															
Military Sciences	599	557	585	186	163	176	153	139	142	147	136	135	112	119	132
Aircraft	1,161	1,598	1,624	150	95	110	411	795	694	599	708	820	1	—	—
Missiles	2,518	2,284	2,230	759	853	896	712	459	494	982	907	774	65	65	66
Military Astronautics	1,074	674	481	10	9	11	18	19	29	1,042	642	438	3	3	3
Ships & Small Craft	354	297	379	—	—	1	354	296	378	—	—	—	—	—	—
Ordnance Vehicles & Related Equipment	366	323	321	161	153	153	160	100	89	45	69	78	—	—	—
Other Equipment	1,178	1,106	1,163	361	304	318	245	242	227	321	303	360	251	257	259
Program-wide Management & Support	507	525	514	50	52	52	140	149	145	306	314	305	11	10	12
Emergency Fund	—	75	50	—	—	—	—	—	—	—	—	—	—	75	50
Total—RDT&E	7,756	7,439	7,346	1,678	1,630	1,718	2,192	2,200	2,197	3,443	3,081	2,910	443	529	521
Combat Readiness, SVN Forces	—	—	300	—	—	—	—	—	—	—	—	—	—	—	300
Military Construction	1,181	1,142	1,424	537	443	741	336	336	328	294	309	309	15	54	46
Family Housing	519	624	737	—	—	—	—	—	—	—	—	—	519	624	737
Civil Defense	61	70	74	—	—	—	—	—	—	—	—	—	61	70	74
Special Foreign Currency Program	5	5	8	—	—	—	—	—	—	—	—	—	5	5	8
Total—Military Functions	78,743	76,351	72,276	26,180	23,864	21,663	21,795	22,799	21,744	26,126	24,274	22,729	4,642	5,415	6,140
Military Assistance	689	684	664	—	—	—	—	—	—	—	—	—	689	684	664
TOA Total—Department of Defense	79,432	77,035	72,941	26,180	23,864	21,663	21,795	22,799	21,744	26,126	24,274	22,729	5,331	6,099	6,805
Financing Adjustments	−2,624	−2,792	−1,363	−1,074	−570	−719	−791	−1,011	−215	−794	−1,082	−364	36	−129	−65
Trust Funds & Offsetting Receipts	−280	−315	−327	−64	−68	−61	−36	−38	−38	−29	−29	−59	−151	−181	−169
Budget Authority (NOA)	76,529	73,928	71,251	25,042	23,225	20,883	20,968	21,751	21,492	25,304	23,162	22,306	5,216	5,789	6,571
Outlays	78,666	77,000	71,791	25,035	24,402	21,553	22,508	22,339	20,865	25,892	24,676	23,079	5,231	5,583	6,294

Table No. 5

BUDGET AUTHORITY (NOA) BY FUNCTIONAL TITLE—FY 1964–1971

(Millions of Dollars)

	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
Functional Classification								
Military Personnel								
Active Forces	11,951	12,507	14,655	17,426	19,100	20,494	21,382	19,916
Reserve Forces	703	750	818	951	923	934	1,109	1,117
Total Military Personnel	12,655	13,257	15,473	18,377	20,023	21,427	22,491	21,033
Retired Military Personnel	1,228	1,399	1,600	1,839	2,095	2,450	2,859	3,194
Operation and Maintenance	11,705	12,603	15,339	19,434	20,950	22,349	21,422	19,512
Procurement								
Aircraft	5,640	5,962	9,354	9,579	9,452	6,475	5,676	6,062
Missiles	3,676	2,615	1,642	2,207	2,493	3,390	3,090	3,620
Ships	2,060	1,905	1,522	1,757	1,301	821	2,490	2,579
Tracked Combat Vehicles and Other Weapons	(a)	243	579	606	654	542	358	330
Ordnance, Vehicles, and Related Equipment	2,028	1,399	4,108	5,213	6,081	5,859	3,634	2,579
Electronics and Communications	1,353	1,039	1,240	1,385	1,432	1,466	930	774
Other Procurement	889	672	1,568	2,125	1,994	1,990	1,663	1,414
Total—Procurement	15,645	13,836	20,013	22,871	23,408	20,542	17,842	17,359
Research, Development, Test and Evaluation	6,984	6,483	6,746	7,172	7,285	7,629	7,369	7,346
Emergency Fund Southeast Asia and Combat Readiness, SVN Forces	—	—	—	—	56	—	—	300
Military Construction	949	1,049	2,566	1,098	1,543	1,168	959	1,416
Family Housing	644	631	666	507	612	512	607	719
Civil Defense	112	105	107	101	86	60	70	74
Special Foreign Currency Program	—	—	—	7	11	—	—	3
Revolving and Management Funds	—	—	(b)	[b] 535	[b] 178	(b)	—	—
Trust Funds and Offsetting Receipts	(c)	(c)	(c)	−134	−157	−128	−134	−158
Total—Military Functions	49,922	49,363	62,510	71,809	76,091	76,010	73,484	70,798
Military Assistance	1,000	1,130	1,023	782	500	671	625	622
MAP Trust Fund and Offsetting Receipts	(c)	(c)	(c)	401	−188	−151	−181	−169
Total—Military Assistance	1,000	1,130	1,023	1,183	312	520	444	454
Total—Department of Defense	50,922	50,493	63,533	72,992	76,402	76,529	73,928	71,251
Component								
Department of the Army	12,513	12,003	17,492	22,876	22,237	25,042	23,225	20,883
Department of the Navy	14,899	14,845	18,486	20,669	21,122	20,968	21,751	21,492
Department of the Air Force	19,446	19,219	22,655	24,193	25,196	25,304	23,162	22,306
Defense Agencies/OSD	1,023	1,100	1,460	1,567	1,632	1,625	1,689	1,728
Defense-wide	1,928	2,091	2,310	2,403	2,818	3,010	3,586	4,316
Civil Defense	112	105	107	101	86	60	70	74
Total—Military Functions	49,922	49,363	62,510	71,809	76,091	76,010	73,484	70,798
Military Assistance	1,000	1,130	1,023	1,183	312	520	444	454
Total—Department of Defense	50,922	50,493	63,533	72,992	76,402	76,529	73,928	71,251

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[a] Amount included in entry for "Ordnance, Vehicles and Related Equipment."

[b] Excludes authority in Stock Funds (10 U.S.C. 2210(b)) to incur reimbursable obligations in anticipation of reimbursable orders to be received in subsequent years. Such authority is included in the Budget Document presentation as "New Obligational Authority."

[c] Trust funds and offsetting receipts were not included in departmental budget amounts in these years.

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Table No. 6

OUTLAYS BY FUNCTIONAL TITLE—FY 1964–1971

(Millions of Dollars)

	FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	FY 1971
Functional Classification								
Military Personnel								
Active Forces	12,312	12,662	14,407	17,054	18,988	20,482	21,250	19,843
Reserve Forces	674	725	755	902	871	892	1,051	1,068
Total—Military Personnel	12,986	13,387	15,162	17,956	19,859	21,374	22,301	20,911
Retired Military Personnel	1,209	1,384	1,591	1,830	2,095	2,444	2,857	3,193
Operation and Maintenance	11,932	12,349	14,710	19,000	20,578	22,227	21,500	19,650
Procurement								
Aircraft	6,053	5,200	6,635	8,411	9,462	9,177	7,646	6,609
Missiles	3,577	2,096	2,069	1,930	2,219	2,509	2,919	3,203
Ships	2,078	1,713	1,479	1,398	1,356	1,949	1,900	1,630
Tracked Combat Vehicles and Other Weapons	(a)	268	257	371	587	508	385	353
Ordnance, Vehicles, and Related Equipment	1,597	1,041	1,642	3,881	5,860	6,590	5,603	4,389
Electronics and Communications	1,264	897	983	1,284	1,595	1,409	1,188	986
Other Procurement	782	625	1,273	1,737	2,204	1,846	1,910	1,630
Total—Procurement	15,351	11,839	14,339	19,012	23,283	23,988	21,550	18,799
Research, Development, Test and Evaluation	7,021	6,236	6,259	7,160	7,747	7,457	7,300	7,382
Combat Readiness, SVN Forces	—	—	—	—	—	—	—	105
Military Construction	1,026	1,007	1,334	1,536	1,281	1,389	1,124	1,154
Family Housing	580	619	647	482	495	572	630	623
Civil Defense	107	93	86	100	108	87	75	70
Special Foreign Currency Program	—	—	—	—	2	1	2	5
Revolving and Management Funds	−452	−741	281	512	2,090	−1,535	−700	−544
Trust Funds and Offsetting Receipts [b]	−183	−200	−231	−130	−164	−126	−134	−157
Total—Military Functions	49,577	45,973	54,178	67,457	77,373	77,877	76,505	71,191
Military Assistance	1,485	1,229	968	873	601	686	556	664
MAP Trust Fund and Offsetting Receipts [b]	−276	−104	35	−15	53	103	−61	−64
Total—Military Assistance	1,209	1,125	1,003	858	654	789	495	600
Total—Department of Defense	50,786	47,098	55,181	68,315	78,027	78,666	77,000	71,791
Component								
Department of the Army	12,011	11,552	14,731	20,952	25,223	25,035	24,402	21,553
Department of the Navy	14,466	13,339	15,961	19,246	22,071	22,508	22,339	20,865
Department of the Air Force	20,456	18,146	20,065	22,918	25,734	25,892	24,676	23,079
Defense Agencies/OSD	695	804	1,063	1,893	1,606	1,295	1,460	1,616
Defense-wide	1,842	2,039	2,272	2,348	2,631	3,060	3,553	4,008
Civil Defense	107	93	86	100	108	87	75	70
Total—Military Functions	49,577	45,973	54,178	67,457	77,373	77,877	76,505	71,191
Military Assistance	1,209	1,125	1,003	858	654	789	495	600
Total—Department of Defense	50,786	47,098	55,181	68,315	78,027	78,666	77,000	71,791

[a] Amount included in entry for "Ordnance, Vehicles and Related Equipment."

[b] Trust funds, offsetting receipts, etc., are estimated for fiscal years 1964, 1965 and 1966.

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Table No. 7

MAJOR PROCUREMENT ITEM QUANTITIES

FY 1970 and 1971 Programs

	FY 1970 program	FY 1971 program
Aircraft		
Army	1,001	814
Navy and Marine Corps	348	261
Air Force	586	390
Total	1,935	1,465
Helicopters	1,259	1,009
Fixed wing aircraft	676	456
Total	1,935	1,465
Missiles		
Army	34,382	19,698
Navy and Marine Corps	3,111	3,791
Air Force	1,600	942
Total—Missiles	39,093	24,431
Ships—Navy		
New construction	10	14
Conversions	9	15
Total—Ships	19	29
Tracked combat vehicles		
Army	2,154	1,939
Marine Corps	136	299
Total—Tracked combat vehicles	2,290	2,238

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Table No. 8

MILITARY AND CIVILIAN PERSONNEL

Yearend Number

	FY 1964 actual	FY 1969 actual	FY 1970 (Johnson)	FY 1970 current estimate	FY 1971 estimate
Military Personnel					
Army					
Officers	110,276	172,367	171,711	165,168	150,460
Enlisted	860,315	1,337,047	1,332,546	1,194,177	1,085,003
Military Academy cadets	1,854	2,532	3,643	3,865	4,119
Total—Army	972,445	1,511,946	1,507,900	1,363,210	1,239,582
Navy					
Officers	76,257	84,974	86,419	81,027	76,650
Enlisted	586,037	686,235	680,838	608,435	562,947
Naval Academy midshipmen	4,150	4,435	4,243	4,243	4,243
Aviation Cadets	719	—	—	—	—
Total—Navy	667,163	775,644	771,500	693,705	643,840
Marine Corps					
Officers	16,819	25,698	26,058	24,588	22,982
Enlisted	172,565	284,073	288,442	269,517	218,203
Aviation Cadets	367	—	—	—	—
Total—Marine Corps	189,751	309,771	314,500	294,105	241,185
Air Force					
Officers	133,029	135,185	135,000	130,013	127,778
Enlisted	719,736	722,936	722,049	675,463	651,325
Air Force Academy cadets	2,838	3,941	4,151	4,151	4,417
Aviation cadets	199	—	—	—	—
Total—Air Force	855,802	862,062	861,200	809,627	783,520
Department of Defense—Total					
Officers	336,381	418,224	419,188	400,796	377,870
Enlisted	2,338,653	3,030,291	3,023,875	2,747,592	2,517,478
Academy cadets and midshipmen	8,842	10,908	12,037	12,259	12,779
Aviation cadets	1,285	—	—	—	—
Total—Defense	2,685,161	3,459,423	3,455,100	3,160,647	2,908,127
Civilian Personnel					
Army	[a] 359,943	455,648	469,717	432,954	415,856
Navy	332,678	423,979	415,264	390,899	361,025
Air Force	[a] 305,070	324,379	322,472	309,396	299,372
Defense Agencies/OSD	37,796	71,534	72,099	69,703	68,875
Total—Defense	1,035,487	1,275,540	1,279,552	1,202,952	1,145,128

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[a] For comparability with FY 1969–1971, data include National Guard technicians not classified as Federal employees in FY 1964.

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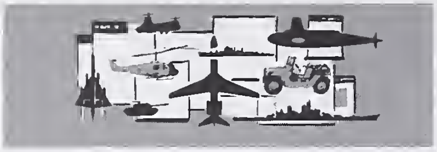

DEFENSE PROCUREMENT

Contracts of $1,000,000 and over awarded during the month of February 1970.

DEFENSE SUPPLY AGENCY

3—**Propper International, Inc.**, Mayaguez, P.R. $1,591,696. 1,713,660 hot weather field caps for the Army and Air Force. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1434.

4—**Standard Oil Co. of California**, San Francisco, Calif. $1,272,929. 301,000 barrels of automotive gasoline. Defense Fuel Supply Center, Alexandria, Va. DSA 600–70–D–0894.

5—**Putnam Mills Corp.**, New York, N.Y. $1,041,749. 890,384 linear yards of Navy blue cotton and nylon cloth. Marion, N.C., and Westerly, R.I. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1445.

—**Prestex, Inc.**, New York, N.Y. $1,123,861. 1,000,000 linear yards of Navy blue cotton and nylon cloth. Lexington, N.C., Lindale, Ga., and Memphis, Tenn. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1444.

9—**J. H. Rutter Rex Manufacturing Co., Inc.**, New Orleans, La. $1,774,881. 545,410 pairs of men's khaki Army trousers. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1462.

13—**Flagg-Utica Co.**, Florence, Ala. $1,153,661. Men's cotton undershirts. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1511.

16—**Ojus Industries Inc.**, Miami, Fla. $1,708,370. 218,020 rolls of concertina barbed tape. Defense Construction Supply Center, Columbus, Ohio. DSA 700–70–C–2552.

17—**Sportwelt Shoe Co.**, Nashua, N.H. $1,761,633. 186,804 pairs of tropical combat boots. Newport, N.H. Defense Personnel Support Center, Philadelphia, Pa. DSA 100–70–C–1524.

18—**United States Steel International, Inc.**, New York, N.Y. $1,160,272. 1,600,000 six-foot fence posts. Provo, Utah, and subcontractors in Calif. Defense Construction Supply Center, Columbus, Ohio. DSA 700–70–D–0010.

27—The Defense Fuel Supply Center, Alexandria, Va., issued the following contracts for aviation gasoline:

Atlantic Richfield Co., Los Angeles, Calif. $7,592,424. 54,600,000 gallons. DSA 600–70–D–1178.

Atlantic Richfield Co., Chicago, Ill. $8,128,540. 66,700,000 gallons. DSA 600–70–D–1179.

Cities Service Oil Co., New York, N.Y. $7,098,328. 56,363,000 gallons. DSA 600–70–D–1181.

Mobil Oil Corp., New York, N.Y. $20,358,826. 147,982,945 gallons. DSA 600–70–D–1185.

Humble Oil and Refining Co., Houston, Tex. $2,518,752. 16,030,000 gallons. DSA 600–70–D–1184.

Phillips Petroleum Co., Bartlesville, Okla. $7,990,483. 55,637,000 gallons. DSA 600–70–D–1186.

Shell Oil Co., New York, N.Y. $2,260,996. 16,245,000 gallons. DSA 600–70–D–1187.

Union Oil Co. of Calif., Los Angeles, Calif. $1,093,092. 7,644,000 gallons. DSA 600–70–D–1191.

Standard Oil Co. of Calif., San Francisco, Calif. $3,223,924. 23,136,000 gallons. DSA 600–70–D–1188.

—The Defense Fuel Supply Center awarded the following contracts for fuel oil and gasoline (indefinite quantity):

American Oil Co., Chicago, Ill. $1,833,886. DSA 600–70–D–1214.

Atlantic Richfield Co., Philadelphia, Pa. $3,904,966. DSA 600–70–D–1216.

BP Oil Corp., Atlanta, Ga. $3,213,509. DSA 600–70–D–1223.

Texaco Inc., Long Island City, N.Y. $4,215,830. DSA 600–70–D–1260.

CONTRACT LEGEND

Contract information is listed in the following sequence: Date—Company — Value — Material or Work to be Performed—Location of Work Performed (if other than company plant) — Contracting Agency—Contract Number.

DEPARTMENT OF THE ARMY

2—**Bell Aerospace Co.**, Amarillo, Tex. $2,007,041. Repair of UH–1 crash/damaged aircraft. Army Aviation Systems Command, St. Louis, Mo. DA–AJ–68–D–0056.

—**International Telephone and Telegraph Corp.**, Nutley, N.J. $2,948,501 (contract modification). Repair parts for AN/GRC–143 radio sets. Clifton, N.J. Procurement Division, Army Electronics Command, Philadelphia, Pa. DA–AB05–68–C–0001.

—**Pacific Car and Foundry Co.**, Renton, Wash. $1,987,157 (contract modification). Amphibious cargo carriers, M116A1, and full tracked, amphibious assault vehicles, XM733. Army Tank Automotive Command, Warren, Mich. DA–AE07–70–C–0029.

—**American Machine and Foundry Co.**, New York, N.Y. $5,611,936. Metal parts for 750-lb. bombs, M117A1E1. Garden City, N.Y. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0279.

—**R. G. LeTournea, Inc.**, Long View, Tex. $6,322,864. Metal parts for 750-lb. bombs, M117A1E1. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0278.

—**Raytheon Co.**, Bedford, Mass. $6,650,000 (contract modification). Advanced development of the SAM–D missile system. Orlando, Fla., Wayland and Bedford, Mass., and White Sands Missile Range, N.M. Army Missile Command, Huntsville, Ala. DA–AH01–67–C–1995.

3—**Roy J. Benoit and Sons, Inc.**, Kankakee, Ill. $1,144,000. Construction of TNT and area laboratories, lunch rooms, maintenance and change houses, Army Ammunition Plant, Newport, Ind. Army Engineer District, Chicago, Ill. DA–CA23–70–C–0039.

—**General Energy Systems Corp.**, Janesville, Wis. $6,298,000. Erecting acid plants, loading, storage and other support facilities and utilities, Army Ammunition Plant, Newport, Ind. Army Engineer District, Chicago, Ill. DA–CA23–70–C–0038.

—**Frazier-Davis Construction Co.**, St. Louis, Mo. $3,570,208. Construction work, Flood Protection Project, St. Louis, Mo. Army Engineer District, St. Louis, Mo. DA–CW43–70–C–0136.

—**Ammann and Whitney**, New York, N.Y. $1,759,000. Standard design of Perimeter Acquisition Radar and site adaptation for the first Safeguard site, Grand Forks, N.D. Army Corps of Engineers, Huntsville, Ala. DA–CA87–68–C–0011.

4—**Physics International Co.**, San Leandro, Calif. $2,400,000. Construction, installation, integration and activation of a flash X-ray machine and associated subsystems and accessories. San Leandro and White Oak, Md. Defense Atomic Support Agency, Washington, D.C. DA–SA01–70–C–0054.

—**AVCO Corp.**, Charleston, S.C. $4,257,000. Overhaul and/or repair of turbine engines for UH–1H/AH–1G aircraft. Army Aviation Systems Command, St. Louis, Mo. DA–AJ01–69–A–0308.

5—**Philco-Ford Corp.**, Newport Beach, Calif. $1,229,885 (contract modification). Continued development and improvement of XM140 30mm automatic weapon for aircraft systems. Rock Island Arsenal, Rock Island, Ill. DA–AF01–70–C–0192.

—**Bauer Ordnance Co.**, Warren, Mich. $2,139,110. Conversion kit for application of the 20mm weapon system to the M114A1 reconnaissance vehicle. Army Weapons Command, Rock Island, Ill. DA–AF03–70–C–0052.

6—**AVCO Corp.**, Richmond, Ind. $1,718,795. Metal parts for 40mm high explosive projectiles, M406. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0121.

9—**Raytheon Co.**, Andover, Mass. $1,950,379. Improved Hawk conversion test equipment. Fort Bliss, Tex., and Andover. Army Missile Command, Huntsville, Ala. DA–AH01–70–C–0768.

—**Institute for Defense Analysis**, Arlington, Va. $1,000,000 (contract modification). Studies for the Advanced Research Projects Agency and the Directorate for Defense Research and Engineering. DA–HC15–67–C–0011. $1,941,000 (contract modification). Studies and analyses for DDR and E, JCS and the Weapons System Evaluation Group. DA–HC15–67–C–0012.

10—**AVCO Corp.**, Stratford, Conn. $1,735,700 (contract modification). Continuation of design, development and test of the AGT–1500 gas turbine engine program. Army Tank Automotive Command, Warren, Mich. DA–AE07–70–C–0082.

—**Texas Instrument, Inc.**, Dallas, Tex. $1,000,000 (contract modification). Classified electronic equipment. Austin, Tex. Army Electronics Command, Fort Monmouth, N.J.

11—**Brunswick Corp.**, Sugar Grove, Va. $1,249,485. 2.75 inch rocket launchers, XM200. Army Missile Command, Huntsville, Ala. DA–AH01–69–C–1837.

—**Penguin Industries, Inc.**, Parkesburg, Pa. $1,392,202. Fuzes for hand practice grenades, XM228. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0268.

12—**General Instrument Corp.**, Hicksville, N.Y. $2,500,000. Classified electronic equipment. Army Electronics Command, Fort Monmouth, N.J.

—The Army Ammunition Procurement and Supply Agency, Joliet, Ill., issued the following contracts:

Gulf and Western Industries, Inc., Waukesha, Wisc. $1,207,611. Metal parts for 40mm cartridge assemblies, M384. DA–AA09–70–C–0281. $3,054,100 (contract modification). 40mm cartridge cases, M118, with base plug and cup powder charge. Waukesha and Antigo, Wisc. DA–AA09–70–C–0128.

Harvey Aluminum, Inc., Torrance, Calif. $1,172,500. 40mm cartridge cases, M118. DA–AA09–70–C–0264.

Stewart Warner Corp., Lebanon, Ind. $1,278,000 (contract modification). 60mm high explosive projectiles, M49A3. DA–AA09–70–C–0081.

13—**Norris Industries, Inc.,** Los Angeles, Calif. $1,920,309. Metal parts for 105mm cartridge cases, M14B1. Army Ammunition Plant, Riverside, Calif. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0167.

—**Kaiser Aerospace Electronics, Inc.,** Glendale, Calif. $5,370,488. Gun conversion kits, M139, and repair parts. Army Weapons Command, Rock Island, Ill. DA–AF03–70–C–0054.

—**Collins Radio Co.,** Cedar Rapids, Iowa. $1,165,300 (contract modification). Installation of AN/ARN–83 sets in aircraft. Army Electronics Command, Fort Monmouth, N.J. DA–AB07–69–C–0387.

16—**REDM Corp.,** Wayne, N.J. $1,353,000 (contract modification). Head assemblies for M525 fuzes. Army Ammunition Procurement and Supply Agency, Joliet, Ill. DA–AA09–70–C–0044.

—**Brunswick Corp.,** Sugar Grove, Va. $1,287,000. White star ground illuminating parachute signals, M127A1. Picatinny Arsenal, Dover, N.J. DA–AA21–70–C–0411.

—**ITT Gilfillan, Inc.,** Van Nuys, Calif. $1,801,000. Modification kits for AN/FPN–40 and AN/TPX–41. Procurement Division, Army Electronics Command, Fort Monmouth, N.J. DA–AG07–69–C–0846.

—**Martin Marietta Corp.,** Orlando, Fla. $2,139,967. Pershing 1 and 1A missile system under SWAP program. Army Missile Command, Huntsville, Ala. DA–AH01—70–C–0806.

17—**Halvorson-Mason,** Portland, Ore. $15,223,980. Completion of the Dalles Power House on the Columbia River, Ore. Army Engineer District, Portland, Ore. DA–CW57–70–C–0078.

24—**Raytheon Co.,** Bedford, Mass. $1,043,000. Repair and modification of AN/MPQ–33 radars to function as doppler velocimeters. Aberdeen Proving Ground, Aberdeen, Md. DA–AD05–70–C–0214.

—**Wilkinson Manufacturing Co.,** Fort Calhoun, Neb. $1,605,000 (contract modification). Fuzes for 81mm projectiles, M524A6. Army Ammunition Supply and Procurement Agency, Joliet, Ill. DA–AA09–70–C–0094.

—**International Harvester Co.,** San Diego, Calif. $2,071,000. Design, development, fabrication and delivery of 22 turboalternators (10kw). Army Mobility Equipment Research and Development Center, Fort Belvoir, Va. DA–AK02–70–C–0312.

25—**Remington Arms Co., Inc.,** Bridgeport, Conn. $1,076,750 (contract modification). 5.56mm ball cartridges, M193. Frankford Arsenal, Philadelphia, Pa. DA–AA25–70–C–0171.

—**Thomas W. Yoder,** Rockville, Md. $2,445,000. Construction of two additions and alterations to DeWitt Army Hospital, Fort Belvoir, Va. Army Engineer District, Norfolk, Va. DA–CA65–70–C–0066.

—**Winslow Teletronics,** Eatontown, N.J. $1.137,847. Amplifier groups, OA1392/GRC and OA1394/GRC. Army Electronics Command, Philadelphia, Pa. DA–AB05–70–C–4413.

—**FMC Corp.,** San Jose, Calif. $1,318,287. Armored personnel carriers, M113A1. Army Tank Automotive Command, Warren, Mich. DA–AE07–69–C–2600.

—**Seaboard Coastline Railroad Co.,** Jacksonville, Fla. $1,117,975. Hauling and switching services, Sunny Point Military Ocean Terminal, Southport, N.C., March 1, 1970, through Feb. 21, 1971. Eastern Area, Military Traffic Management and Traffic Service, Brooklyn, N.Y. DA–HC21–70–D–0152.

26—**King Hunter, Inc.,** Greensboro, N.C. $1,391,319. Construction of confinement facility, Fort Bragg, N.C. Army Engineer District, Savannah, Ga. DA–CA21–70–C–0034.

—**J. I. Case Co.,** Racine, Wis. $1,642,360. Full tracked tractors, T–5. Burlington, Iowa. Army Mobility Equipment Command, St. Louis, Mo. DA–AK01–70–C–5160.

—**Stan Flowers Co., Inc.,** Oakland, Calif. $8,150,000. Shipwright carpentry and related services in the San Francisco Bay area, from March 1, 1970, through Feb. 29, 1972. Western Area Military Traffic Management and Terminal Service, Oakland, Calif. DA–HC23–70–D–0048.

—**Goodyear Tire and Rubber Co.,** Akron, Ohio. $2,047,539 (contract modification). Track shoe assemblies for M48–M60 tanks. St. Mary's, Ohio. Army Tank Automotive Command, Warren, Mich. DA–AE07–70–C–2489.

—The Army Ammunition Procurement and Supply Agency, Joliet, Ill., issued the following contract modifications:

Scovill Manufacturing Co., Waterbury, Conn. $1,437,930. Loaded grenade fuzes, M219E1. DA–AA09–70–C–0028.

Honeywell, Inc., Hopkins, Minn. $1,264,000. Loaded grenade fuzes, M219E1. St. Louis, Park, Minn. DA–AA09–70–C–0026. $3,766,500. M219E1 grenade fuzes. New Brighton, Minn. DA–AA09–70–C–0027. $1,572,819. Loaded grenade fuzes, XM224. New Brighton, Minn. DA–AA09–70–C–0012.

27—The Army Ammunition Procurement and Supply Agency, Joliet, Ill., issued the following contracts:

Remington Arms Co., Inc., Bridgeport, Conn. $8,268,212 (contract modification). Operation of facilities, Lake City Ammunition Plant, Independence, Mo. DA–49–010–AMC–00003(A).

Hercules, Inc., Wilmington, Del. $1,987,481 (contract modification). Operation of facilities, Army Ammunition Plant, Radford, Va. DA–11–173–AMC–00037(A).

Uniroyal, Inc., New York, N.Y. $5,188,636 (contract modification). Operation of facilities, Army Ammunition Plant, Joliet, Ill. DA–11–173–AMC–00062(A).

National Gypsum Co., Buffalo, N.Y. $5,410,548 (contract modification). Operation of facilities, Army Ammunition Plant, Parsons, Kan. DA–11–173–AMC–00095(A).

Sperry Rand Corp., New York, N.Y. $9,438,972 (contract modification). Loading, assembling and packing of projectiles, Army Ammunition Plant, Shreveport, La. DA–11–173–AMC–00080(A).

Lakso Metal Products, Inc., West Chester, Pa. $2,934,484 (contract modification). Bomb dispensers, SUU–14A/A. DA–AA09–70–C–0070.

Chamberlain Manufacturing Co., Elmhurst, Ill. $4,218,250. 81mm high explosive projectiles, M374A1. Army Ammunition Plant, Riverbank, Calif. DA–AA09–70–C–0298.

Day and Zimmerman, Inc., Philadelphia, Pa. $14,202,533. Loading, assembling and packing of ammunition, Army Ammunition Plant, Parsons, Kan. DA–AA09–70–C–0245.

Norris Industries, Los Angeles, Calif. $4,136,000. 81mm high explosive projectiles. Army Ammunition Plant, Riverbank, Calif. DA–AA09–70–C–0277.

—**Southwest Truck Body Co.,** St. Louis, Mo. $1,106,484. 36 sets of shop equipment. West Plains, Mo. Army Mobility Equipment Command, St. Louis, Mo. DA–AK01–70–C–5450.

—**General Motors Corp.,** Indianapolis, Ind. $3,237,319. Installation units, spares and transfer assemblies for XTG–411–2A transmissions for M107, M109, M110 and M578 vehicles. Army Tank Automotive Command, Warren, Mich. DA–AE07–70–C–3211.

—**Union Carbide Corp.,** New York, N.Y. $1,817,000. PS116 reserve energizers for M514A1E1 fuzes. Bennington, Vt. Harry Diamond Laboratories, Washington, D.C. DA–AG39–70–C–0039.

—**Oakland Construction Co.,** Salt Lake City, Utah. $5,713,000. Construction of a consolidated field maintenance shop, Fort Carson, Colo. Army Engineer District, Omaha, Neb. DA–CA45–70–C–0049.

—**Olin Corp.,** Stanford, Conn. $7,001,809 (contract modification). Operating facilities, Army Ammunition Plant, Charlestown, Ind. $2,207,587 (contract modification). Operating facilities, Badger Army Ammunition Plant, Baraboo, Wis. DA–AA09–69–C–0148. Army Ammunition Procurement and Supply Agency, Joliet, Ill.

—**Winchester Western Div., Olin Corp.,** East Alton, Ill. $2,189,117. .45 caliber ball cartridges, M1911. Frankford Arsenal, Philadelphia, Pa. DA–AA25–70–C–0449.

DEPARTMENT OF THE NAVY

2—**Todd Shipyards Corp.,** New York, N.Y. $12,437,413. Modernization and repair of five minesweepers/minehunters. Brooklyn N.Y. Naval Ship Systems Command, Washington, D.C. N00024–70–C–0240.

—**Sperry Rand Corp.,** St. Paul, Minn. $1,669,255 (contract modification). Computer components and associated spare parts. Naval Ship Systems Command, Washington, D.C. N00024–68–C–1134.

—**Univac Corp.,** St. Paul, Minn. $1,230,014. Development of components for the AN/UYK–7 computer. Naval Ship Systems Command, Washington, D.C. N00024–70–C–1142.

3—**Bendix Corp.,** Teterboro, N.J. $4,648,700. Poseidon components. Naval Strategic Projects Office, Washington, D.C. N00030–70–C–0063.

—**FMC Corp.,** San Jose, Calif. $3,490,836. Engineering field and support services for the Landing Vehicle Track Personnel (LVTP–7 and LVTPX–12) amphibious vehicles. Naval Ship Systems Command, Washington, D.C. N00024–70–C–0250.

—**J. A. Jones Construction Co.,** Nashville, Tenn. $2,247,067. Construction of an 840-man Bachelor Enlisted Quarters building, Naval Air Station, Memphis, Tenn. Naval Facilities Engineering Command, Washington, D.C. N62467–69–C–0201.

4—**General Instrument Corp.,** Chicopee, Mass. $14,381,192. Mk 344 Mod 0 and Mk 376 Mod 0 bomb fuzes. Naval Air Systems Command, Washington, D.C. N00019–70–C–0310.

—**Hughes Aircraft Co.,** Culver City, Calif. $11,850,000 (contract modification). FY 1970 funding for Phoenix missiles. Naval Air Systems Command, Washington, D.C. N00019–67–C–0240.

—**Fairchild Camera and Instrument Corp.,** Copiague, N.Y. $10,967,364. Mk 344 Mod 0 and Mk 376 Mod 0 bomb fuzes. Naval Air Systems Command, Washington, D.C. N00019–70–C–0311.

5—**General Electric Co.,** Schenectady, N.Y. $16,422,000 (contract modification). Design and furnishing of nuclear propulsion components. Naval Ship Systems Command, Washington, D.C. N00024–69–C–5154.

—**Newport News Shipbuilding and Dry Dock Co.,** Newport News, Va. $10,000,000. Long lead time materials and equipment for one nuclear powered guided missile frigate, DLG 38. Naval Ship Systems Command, Washington, D.C. N00024–70–C–0261.

—**Honeywell, Inc.,** Tampa, Fla. $4,527,813. AN/APX–72 radar transponders. Naval Air Systems Command, Washington, D.C. N00019–70–C–0370.

6—**Grumman Aerospace Corp.,** Bethpage, N.Y. $27,200,000. E–2C aircraft. Naval Air Systems Command, Washington, D.C. N00019–68–C–0542.

—**Greenhut Construction Co., Inc.,** Pensacola, Fla. $3,251,249. Construction of an enlisted men's barracks, Naval Construction Battalion Center, Gulfport, Miss. Naval Facilities Engineering Command, Washington, D.C. N62468–70–C–0046.

—**Sperry Gyroscope Co.,** Great Neck, N.Y. $2,045,000. Development program on the Terrier missile radar sets, AN/SPG–55A/B, and ancillary equipment. Naval Ordnance

Systems Command, Washington, D.C. N00017-70-C-2309.

9—**General Electric Co.**, Pittsfield, Mass. $2,718,750. Poseidon Phase IIIB training facilities, project and weapon program coordination. Naval Strategic Systems Project Office, Washington, D.C. N00030-70-C-0108.

10—**Algernon Blair, Inc.**, Montgomery, Ala. $14,801,000. Construction of a 500-bed hospital, Charleston, S.C. Naval Facilities Engineering Command, Washington, D.C. N62467-67-C-0772.

—**Lockheed Aircraft Corp.**, Burbank, Calif. $2,810,929 (contract modification). Increase funding for long lead time effort and material to support FY 70 P-3C procurement. Naval Air Systems Command, Washington, D.C. N00019-69-C-0237.

—**Dyson Construction Co., Inc.**, Pensacola, Fla. $1,636,157. Construction of a controlled humidity warehouse, Naval Construction Battalion Center, Gulfport, Miss. Naval Facilities Engineering Command, Washington, D.C. N62468-70-C-0047.

—**Cenco Piping Corp.**, Janesville, Wis. $1,227,967. Construction of an oceanographic research facility, Naval Air Station, Barbers Point, Oahu, Hawaii. Naval Facilities Engineering Command, Washington, D.C. N62471-69-C-0507.

12—**United Aircraft Corp.**, Stratford, Conn. $1,888,295. Main rotor blades for CH-53A helicopters. Naval Aviation Supply Office, Philadelphia, Pa. N00383-69-A-3900-1320.

—**General Electric Co.**, Utica, N.Y. $1,997,276. Guidance and control groups, Mk 28 Mod 1, for the Army's Chaparral missile. Naval Air Systems Command, Washington, D.C. N00019-70-C-0088.

13—**Hughes Aircraft Co.**, Fullerton, Calif. $11,701,251. Navy Tactical Data System display consoles and supporting equipment. Naval Ship Systems Command, Washington, D.C. N00024-70-C-1216.

—**Magnavox Research Labs**, Torrance, Calif. $3,203,000. AN/PRR-14 receivers and associated items for the Navy, Army and Air Force. Naval Air Systems Command, Washington, D.C. N00019-70-C-0220.

—**Robert R. Marquis Inc.**, Portsmouth, Va. $1,625,453. Construction of a dispensary and dental clinic, Naval Amphibious Base, Little Creek, Va. Naval Facilities Engineering Command, Washington, D.C. N62470-69-C-0752.

16—**Sperry Gyroscope Co.**, Great Neck, N.Y. $2,450,000. Refurbishment and conversion of Terrier fire control system, Mk 76 Mods 3 and 5. Naval Ordnance Systems Command, Washington, D.C. N00017-70-C-2308.

—**United Aircraft Corp.**, Hartford, Conn. $106,678,039. J-52-P-408 and -8A, and TF-30-P-412 and -100 aircraft engines for the Navy and Air Force. Naval Air Systems Command, Washington, D.C. N00019-70-C-0208.

17—**Lockheed Aircraft Corp.**, Sunnyvale, Calif. $2,160,000 contract modification). Repair parts for Polaris equipment. N00030-67-0177. $5,380,500. Support, test and readiness equipment and liners for Poseidon missiles. N00030-70-0076. Naval Strategic Systems Project Office, Washington, D.C.

—**Hughes Aircraft Co.**, Culver City, Calif. $20,826,000 (contract modification). AN/AWG-9 airborne missile control systems. Tucson, Ariz., and Canoga Park, Culver City, Los Angeles and El Segundo, Calif. Naval Air Systems Command, Washington, D.C. N00019-70-C-0207.

—**Baugh and Coody, Inc.**, Albany, Ga. $1,144,600. Bachelor Officers' Quarters, Naval Supply Corps School, Athens, Ga. Naval Facilities Engineering Command, Charleston, S.C. N62467-68-C-0198.

18—**Ruscon Construction Co.**, Charleston, S.C. $1,091,194. Construction of Bachelor Officers' Quarters and mess addition, Naval Station, Charleston, S.C. Naval Facilities Engineering Command, Washington, D.C. N62467-68-C-0231.

—The Naval Air Systems Command, Washington, D.C., issued the following contracts:

Sparton Corp., Jackson, Mich. $7,372,023. AN/SSQ-53 sonobuoys. DeLeon Springs, Fla. N00019-70-C-0407.

General Dynamics Corp., Pomona, Calif. $1,700,000 (contract modification). Long lead time components to support update of Standard ARM, AGM-78, missiles for the Air Force. N00019-69-C-0336.

Hughes Aircraft Co., Culver City, Calif. $1,000,000. F-14 armament system development and evaluation testing. N00019-70-C-0343.

19—General Dynamics Corp., Groton, Conn. $10,397,000. Advance planning, design work, and long lead-time material procurement preparatory to the overhaul and C-3 conversion of the USS Benjamin Franklin (SSBN 640) and USS Kamehameha (SSBN 642). Naval Ship Systems Command, Washington, D.C. N00024-70-C-0242.

20—**Magnavox Co.**, Fort Wayne, Ind. $2,830,393. AN/SSQ-41A sonobuoys and refurbishing kits. Naval Air Systems Command, Washington, D.C. N00019-70-C-0411.

—**United Aircraft Corp.**, East Hartford, Conn. $4,200,000. Development of the TF-30-P-412 engine for F-14 A aircraft. Naval Air Systems Command, Washington, D.C. N00019-69-C-0393.

—**Grumman Aerospace Corp.**, Bethpage, N.Y. $1,500,000 (contract modification). Long lead-time for A-6 series aircraft. Naval Air Systems Command, Washington, D.C. N00019-68-C-0106.

—**Johns Hopkins University**, Silver Spring, Md. $3,797,000. Advanced research on the Surface Missile System Program. Naval Ordnance Systems Command, Washington, D.C. NOw 62-0604.

—**Westinghouse Electric Corp.**, Baltimore, Md. $3,800,000. Engineering support for the design, test and evaluation of proposed modifications to the Mk 48 Mod 0 torpedo and Mk 27 Mod 0 mobile target production design. Lansdowne, Md. Naval Ordnance Systems Command, Washington, D.C. N00017-70-C-1209.

24—**Westinghouse Electric Corp.**, Washington, D.C. $13,153,253. Launcher equipment for Poseidon missiles. Sunnyvale, Calif. Naval Strategic Systems Project Office, Washington, D.C. N00030-70-C-0099.

—**Hoffman Electronics Corp.**, El Monte, Calif. $7,063,887. AN/ARN-84 Tacan navigation system. Naval Air Systems Command, Washington, D.C. N00019-70-C-0326.

—**Thiokol Chemical Corp.**, Elkton, Md. $2,052,000. Mk 67 Mod 0 rocket motors for the ZAP missile. Naval Ordnance Laboratory, White Oak, Md. N60921-70-C-0175.

26—**Raytheon Co.**, Bedford, Mass. $2,552,363. Engineering services and test program support for Sparrow missile interface and integration for F-14A aircraft. Naval Air Systems Command, Washington, D.C. N00019-70-C-0268.

—**Grumman Aerospace Corp.**, Bethpage, N.Y. $23,800,000 (contract modification). Long lead time effort and material to support the FY 1970 EA-6B aircraft program. Naval Air Systems Command, Washington, D.C. N00019-67-C-0078.

DEPARTMENT OF THE AIR FORCE

2—**Martin Marietta Corp.**, Orlando, Fla. $1,061,800. Component parts for munitions. Armament Development Test Center, Eglin AFB, Fla. F08635-70-C-0213.

—**United Aircraft Corp.**, Hartford, Conn. $1,000,000. Aerospace ground equipment for TF-30 aircraft engines. Aeronautical Systems Division, AFSC, Wright-Patterson AFB, Ohio. N383-69000A-SC51.

—RCS Corp., Burlington, Mass. $1,831,881. Automated test system, data, spare parts and maintenance service, for jet engine accessories applicable to J-79 aircraft engines. Detroit, Mich., Oklahoma City, Okla., and Burlington. San Antonio Air Materiel Area, AFLC, Kelly AFB, Tex. F41608-70-C-6425.

3—**General Electric Co.**, West Lynn, Mass. $6,000,000. Component improvement program for T-58 and J-85 aircraft engines. Aeronautical Systems Division, AFSC, Wright-Patterson AFB, Ohio. F33657-70-C-0545.

—**McDonnell Douglas Corp.**, Tulsa, Okla. $1,294,833. Maintenance of Air Force Plant No. 3, Tulsa. Aeronautical Systems Division, AFSC, Wright-Patterson AFB, Ohio. AF 3(657)16416.

4—**Control Data Corp.**, Minneapolis, Minn. $1,529,121. Rental and maintenance on automatic data processing equipment at Patrick AFB and Cape Kennedy AFS, Fla. Air Force Eastern Test Range, AFSC, Patrick AFB, Fla. F08650-70-M-F189.

5—RCA, Moorestown, N.J. $2,396,332 (contract modification). Operation of radar tracking facilities. Electronic Systems Division, AFSC, L. G. Hanscom Field, Mass. F19628-69-C-0186.

6—**North American Rockwell Corp.**, Anaheim, Calif. $11,194,600. Spare parts for Minuteman III guidance and control systems. Space and Missile Systems Organization, Los Angeles, Calif. F04701-69-C-0194.

9—**Westinghouse Electric Corp.**, Baltimore, Md. $1,875,000. Electronic ground equipment. Space and Missile Systems Organization, AFSC, Los Angeles, Calif F04701-70-C-0062.

10—**The Boeing Co.**, Seattle, Wash. $7,156,761. Design, development and testing of the trajectory perdiction systems and related equipment for Minuteman III. Space and Missile Systems Organizatin, AFSC, Los Angeles, Calif. AF04(694)-791.

—**North American Rockwell Corp.**, Anaheim, Calif. $3,011,400. Guidance and control systems for Minuteman III. Space and Missile Systems Organization, AFSC, Los Angeles, Calif. F04701-67-C-0194.

12—**General Electric Co.**, Philadelphia, Pa. $5,969,356. Research and development of the Mark 12 reentry vehicle. Space and Missile Systems Organization, AFSC, Los Angeles, Calif. AF04(694)-473.

—**General Dynamics Corp.**, Fort Worth, Tex. $1,346,054. Spare parts for F-111 aircraft. Sacramento Air Materiel Area, AFLC, McClellan AFB, Calif. AF33(657)-13403.

13—**Control Data Corp.**, Minneapolis, Minn. $1,700,000. Lease of automatic data processing equipment at Eglin AFB, Fla. Director for Base Procurement, Armament Development and Test Center, Eglin AFB, Fla. F08651-70-M-8809.

16—**Brooks and Perkins, Inc.**, Detroit, Mich. $2,211,357. Large cargo pallets adapted for mechanized loading of air cargo. Cadillac, Mich. Warner Robins Air Materiel Area, AFLC, Robins AFB, Ga. F09603-70-C-2027.

—**Lockheed Aircraft Corp.**, Marietta, Ga. $3,619,160. Spare parts for C-5A aircraft. Detachment 31, San Antonio Air Materiel Area, Marietta, Ga. AF (657) 15053.

—**Goodyear Aerospace Corp.**, Akron, Ohio. $4,172,500. Ground environmental system used in processing reconnaissance aircraft data. Aeronautical Systems Division, AFSC, Wright-Patterson AFB, Ohio. F33657-70-C-0610.

17—AVCO Corp., Greenwich, Conn. $7,601,439. Ballistic missile penetration aids. Stratford, Conn. Space and Missile Systems Organization, AFSC, Los Angeles, Calif. F04701-68-C-0039.

—**Bendix Corp.**, Teterboro, N.J. $1,283,050. Modification of B-52 aircraft. Oklahoma City Air Materiel Area, AFLC, Tinker AFB, Okla. F34601-69-C-2685.

18—**Philco-Ford Corp.**, Palo Alto, Calif. $3,133,659. Logistic support management for the satellite control facility. Air Force Satellite Control Facility, Los Angeles, Calif. F04701-70-C-0006.

—**General Dynamics Corp.**, Fort Worth, Tex. $3,000,000. F-111 aircraft. Aeronautical Systems Division. AFSC, Wright-Patterson AFB, Ohio. AF33(657)13403.

19—**Teletype Corp.**, Skokie, Ill. $1,597,363. Modification kits for converting Model

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28 teletypewriters from high frequency to low frequency. Oklahoma City Air Materiel Area, AFLC, Tinker AFB, Okla. F34601–70–C–2095.

20—The Space and Missile Systems Organization, AFSC, Los Angeles, Calif., issued the following contracts:

Aerojet-General Corp., Sacramento, Calif. $1,600,000. Spare parts for Titan III–C space booster. F04695–67–C–0096.

Lockheed Aircraft Corp., Sunnyvale, Calif. $1,841,000. Research and development on the Air Force Satellite Control Facility. F04701–70–C–0068.

24—**General Dynamics Corp.**, Fort Worth, Tex. $1,776,000. Spare parts for F–111 aircraft. Sacramento Air Materiel Area, AFLC, McClellan AFB, Calif. AF 33(657)-13403.

—**Fairchild Hiller Corp.**, St. Augustine, Fla. $1,574,000. Modification and reconditioning of C–119 aircraft. Warner Robins Air Materiel Area, AFLC, Robins AFB, Ga. F09603–70–C–1908.

26—**General Electric Co.**, West Lynn, Mass. $1,422,800. Spare parts for J–85 turbojet engines. San Antonio Air Materiel Area, AFLC, Kelly AFB, Tex. F43601–69–D–2254.

—**The Boeing Co.**, Seattle, Wash. $2,559,122. Spare parts for Minuteman missiles. Ogden Air Materiel Area, AFLC, Hill AFB, Utah. F04701–68–C–0165.

27—**TRW, Inc.**, Redondo Beach, Calif. $2,559,600. Services and data for integration, assembly and checkout of the Tactical Air Control System. Electronic Systems Division, AFSC, Wright-Patterson AFB, Ohio. F19628–70–C–0052.

—**Northrop Corp.**, Hawthorne, Calif. $2,000,000. Preproduction planning and long lead time items toward procurement of F-5 aircraft. Aeronautical Systems Division, AFSC, Wright-Patterson AFB, Ohio. F33657–70–C–0762.

—The Space and Missile Systems Organization, AFSC, Los Angeles, Calif., issued the following contracts:

General Electric Co., Philadelphia, Pa. $4,215,634. Research and development of the Mk 12 reentry vehicle. AF04(694)–916.

Philco-Ford Corp., Palo Alto, Calif. $1,400,000. Engineering support for the Air Force Satellite Control Facility Network. F04701–70–C–0029.

OFFSHORE

18—**Canadian Commercial Corp.**, Ottawa, Ontario, Canada. $1,789,320. AN/SSQ–41 sonobuoys. Dartsmouth, Nova Scotia. Naval Air Systems Command, Washington, D.C. N00019–70–C–0412.

New Single-Sideband Radio Proposed

To enhance communications over greater distance in tactical air-ground operations, the Army Combat Developments Command, Fort Belvoir, Va., has proposed the design of a new single sideband medium/high frequency (SSB M/HF) radio. It would be used in Army aircraft and provide continuous non-line-of-sight tactical communications. It should be compatible with radio sets in tactical Army units on the ground at ranges up to 150 miles, particularly when the aircraft is operating at low altitudes. SSB M/HF should also be operationally compatible with high-frequency SSB equipment using same frequency ranges of the Navy, Air Force, Marine Corps, and the Federal Aviation Agency.

The new radio will be constructed on the modular principle, *i.e.*, printed circuits readily removable for maintenance purposes and marked for positive identification. These maintenance characteristics will permit personnel with rudimentary training to isolate faults and replace modules or major components.

SSB M/HF radios should be sufficiently rugged to withstand the environment, handling and operational conditions of military field use including vibration encountered in helicopters. The equipment will be designed to provide a minimum operating life of 5,000 hours with reasonable replacement of parts, not to include major repair.

Inflated Shelters Tested by Air Force

Air inflatable shelters for use as Tactical Air Control Centers and Direct Air Support Centers are being investigated for the Air Force by the Air Force Systems Command's Electronic Systems Division, L. G. Hanscom Field, Mass.

The air inflatables are an effort to provide the Air Force with "instant" response to combat situations, through the development of modular operations and support centers. Part of the 407L Tactical Air Control Center, the units are transportable by helicopter, fixed-wing cargo aircraft, or truck.

Each center consists of a standardized shelter module, approximately 7-by-13-by-7½ feet, with an expandable hinged side panel providing an additional 15-by-12½ feet of floor space. All communications equipment, display boards, tables and chairs are carried inside the shelter module.

Produced by the Hughes Aircraft Co., Fullerton, Calif., the units have been tested under temperature extremes of —65 and 160 degrees F., winds of 100 knots, and rainfall of 1½ inches per hour. Additional testing is being conducted at Eglin AFB, Fla.

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FY 1971 Modified Phase II Safeguard Program

Supplementing his Feb. 20, 1970, statement on the FY 1971 budget and program (condensed in this issue of the *Bulletin*), Secretary of Defense Melvin R. Laird, on Feb. 24, 1970, released a statement regarding the need for additional Safeguard deployment. In this statement, he outlined specifics on the proposed FY 1971 modified phase II Safeguard program:

For FY 1971, authorization is requested to deploy *one* additional Safeguard site at Whiteman AFB, Mo. (in the Minuteman field). The request also recommends that the FY 1971 program include the deployment of additional Sprint missiles at Grand Forks AFB, N.D., and Malmstrom AFB, Mont. This would raise the number of Sprints at these sites to the phase II level, thus further increasing the total number of interceptors capable of defending Minuteman ICBMs. This will require additional acquisition of small parcels of land and additional silo contruction at Grand Forks and Malmstrom. With regard to the additional Sprint missiles, since the purchase of only the long lead-time missile components is required in FY 1971, the decision to produce and deploy them can be reviewed at a later time.

Authorization for FY 1971 is recommended to undertake a long lead-time task of advanced preparation work for five more sites. This task includes site survey and engineering, land acquisition and purchase of some long lead-time items, but does *not* commit DOD to deployment of radars or missiles. The five sites are Northeast, Northwest, the National Capital Area, Warren AFB, Wyo., and Michigan/Ohio.

The proposed FY 1971 program maintains the President's options to move further toward a 12-site full phase II Safeguard system, if necessary, or to curtail the deployment if threat developments permit. Should it be required, the full 12-site deployment could be installed by the late 1970s if there were FY 1972 authorization for the remaining nine sites, including the five sites for which only advanced preparation authority is requested in FY 1971. The 12-site deployment would provide substantial area defense of the U.S. population for a number of years against Communist Chinese and Nth country attack, and defense adequate to permit most of the U.S. alert bomber force to take off even if attacked by depressed trajectory submarine-launched ballistic missiles. Defense against an accidental launch from any source also would be provided by the 12-site deployment.

The DOD budget submission for FY 1971 includes an authorization request for $1.49 billion for Safeguard. This amount is requested to continue approved phase I deployment, deployment of additional Sprints at phase I sites, commencement of deployment at one additional site, and undertaking advanced preparations at the five potential future sites. Funds for the modified phase II portion of the program would be less than $100 million. Total FY 1971 spending for the Congressionally approved phase I and the proposed modified phase II program will amount to approximately $920 million.

Given President Nixon's determination to postpone additional actions on U.S. offensive systems this year in order to advance prospects for success in the Strategic Arms Limitation Talks, further progress on Safeguard deployment becomes the only viable course available in FY 1971. As the President noted, "Each phase of the deployment will be reviewed to insure that we are doing as much as necessary but not more than that required by the threat existing at that time." The modified phase II deployment recommended for FY 1971 is the minimum that can and must be done, both in cost and in system development, to fulfill the President's national security objectives.

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